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George Dutton

A SERIES OF

QUESTIONS AND ANSWERS

IN

CHEMISTRY, PHARMACY, BOTANY, ANATOMY,

ETC.

G. WOODFALL, ANGEL COURT, SKINNER STREET, LONDON.

A SERIES OF QUESTIONS AND ANSWERS IN CHEMISTRY, PHARMACY, BOTANY, ANATOMY, ETC.

TO WHICH IS ANNEXED,

A LITERAL TRANSLATION OF THE

NEW LONDON PHARMACOPŒIA;

WITH EXTENSIVE TABLES AND REFERENCES,

DESIGNED

FOR THE USE OF GENTLEMEN

PREPARING FOR

EXAMINATION AT APOTHECARIES' HALL,

AND JUNIOR STUDENTS IN MEDICINE.

THIRD EDITION.

BY CHARLES MINGAY SYDER,

LECTURER ON GENERAL AND PHARMACEUTICAL CHEMISTRY, LICENTIATE OF THE HONORABLE SOCIETY OF APOTHECARIES, ETC.

LONDON:

JOHN ANDERSON, 40, WEST SMITHFIELD; AND

WM. JACKSON, KING-STREET, BOROUGH.

1824.

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THIS LITTLE WORK

IS MOST RESPECTFULLY DEDICATED

TO THE

GENTLEMEN ATTENDING THE

MEDICAL SCHOOLS OF THE METROPOLIS,

WITH

THE AUTHOR'S BEST WISHES FOR THEIR

PROFESSIONAL SUCCESS.

LONDON, JULY 1824.

QUESTIONS AND ANSWERS,

ETC.

EXAMINATIONS

ON

CHEMISTRY, PHARMACY, BOTANY,

ETC.

1. Q. WHAT is chemistry?

A. The science which teaches the constituent parts of bodies, with reference to their nature, proportions, and method of combination.

2. Q. What is pharmacy?

A. That part of chemical science which relates to the mixture and combination of different substances for medicinal purposes.

3. Q. What is sublimation?

A. The process by which volatile substances are raised by heat, and again condensed in a solid form.

4. Q. What do you understand by gas?

A. Gas is the term by which permanently elastic fluids, simple or compound, are designated, except the atmosphere.

5. Q. What is meant by analysis?

A. The art of dividing a compound body into its simple elementary constituents, which is generally to be effected by the powers of heat and the assistance of substances governed by the laws of affinity.

6. Q. What are the elements of the atmospheric air?

A. Oxygen and nitrogen, about one per cent. of carbonic acid gas, with other adventitious substances, rendered aërial by the expansive properties of caloric.

7. Q. What part of the atmospheric air does the blood absorb?

A. The oxygen and caloric.

8. Q. What is nitrogen or azote?

A. Nitrogen is an important elementary principle, constituting about four-fifths of the volume of atmospheric air; it extinguishes life and flame, has neither taste or smell; is invisible and elastic, and is a component part of all animal substances.

9. Q. What are the chemical compounds of nitrogen?

A. Combined with oxygen in varied proportions it forms four compounds, 1. protoxide of azote or nitrous oxide, 2. deutoxide of azote, nitrous gas, or nitric oxide, 3. nitrous acid, 4. nitric acid.

10. Q. What is oxygen gas?

A. An invisible elastic fluid, with neither smell nor taste, supporting life, combustion, and heat, and is considered the principle of acidity: it is a little heavier than the atmosphere, of which it forms a fifth part; it exists in most vegetable and animal products, acids, salts, and oxides.

11. Q. What are oxides?

A. Substances combined with oxygen without being in the state of an acid.

12. Q. What is meant by specific gravity?

A. The relative weight of bodies.

13. Q. What is caloric?

A. The agent to which the phenomena of heat and combustion are ascribed.

14. Q. What are the sources of caloric?

A. The sun's rays, percussion, friction, electricity, galvanism, and the mixture of substances.

15. Q. What are the general effects of heat upon substances?

A. Expansion, ignition, evaporation, fluidity, elasticity.

16. Q. Whence do we receive the abietis resina?

A. From Germany and France. The resin spontaneously exudes from and concretes upon the bark of the pinus abies or Norway spruce fir, a native tree of Europe and north of Asia, flowering in April; it is collected and sent to us without undergoing any preparation.

17. Q. What are the elements of water?

A. Hydrogen and oxygen.

18. Q. How can you account for numerous substances differing so much in their nature, being formed of the same constituents?

A. By the varied proportions of each constituent principle, and the peculiar method of combination.

19. Q. What are the elements of ammonia?

A. Hydrogen and nitrogen.

20. Q. How may alkalies be systematically arranged?

A. In three classes: 1st, those which consist of a metallic base with oxygen, viz. *soda*, *potass*, and *lithia*; 2d, that which has no oxygen, *ammonia*; 3d, those which contain hydrogen, oxygen, and carbon, as *aco-*

nita, morphia, cicuta, atropia, brucia, daturia, delphia, hyosciamia, strychnia, and other vegetable alkalies.

21. Q. What are the properties of alkalies.

A. They are of a urinous caustic taste, soluble in water, will decompose and unite with acids, forming new compounds; they render oils miscible with water, are possessed of considerable caustic properties, will change the blue juices of vegetables to a green, and the yellow to a brown.

22. Q. What alkalies are employed in pharmacy?

A. Soda, potass, and ammonia.

23. Q. Why have potass and soda been called *fixed* alkalies?

A. Because they will endure an excessive heat without a separation of their components.

24. Q. What is ammonia?

A. A volatile alkali.

25. Q. What are the virtues of opium?

A. Diffusible stimulus, narcotic, anodyne, and sedative.

26. Q. What are the virtues of diluted acetic acid?

A. Anti-narcotic, anti-septic, and diaphoretic; and externally, stimulant and astringent.

27. Q. In distilling vinegar what change takes place?

A. It is deprived of its colouring and mucilaginous matters, tartaric acid, or any adventitious substances it may contain.

28. Q. Name the substances with which vinegar is sometimes adulterated, and how they may be detected.

A. 1. *Sulphuric acid;* this is detected by precipitates being produced, on adding a solution of acetate of barytes or of chalk: 2. *Copper*, by supersaturating it with ammonia a blue colour will be the result: 3. *Lead or Tin*, by adding a solution of sulphuretted hydrogen, which will cause a dark coloured precipitate.

29. Q. Name the preparations of diluted acetic acid.

A. The liquor plumbi subacetatis—acetum scillæ—oxymel—liquor ammoniæ acetatis—acetum-colchici—and emplastrum ammoniaci.

30. Q. Name the officinal preparations of strong acetic acid.

A. Plumbi acetas and potassæ acetas.

31. Q. What are acetates?

A. The class of salts formed by a combination of acetic acid with earths, alkalies, or metallic oxides.

32. Q. What are the constituents of diluted acetic acid or distilled vinegar?

A. Carbon, hydrogen, oxygen *(forming pure acetic acid)*, dissolved in water.

33. Q. What are the virtues of the sub-carbonate of ammonia?

A. Antacid, anti-spasmodic and stimulant; dose from ten grains to a scruple, used in dyspepsia, hysteria, syncope, &c. &c.

34. Q. Name the officinal preparations of ammonia.

A. The ammoniæ sub-carbonas,—liquor ammoniæ,—liquor ammoniæ acetatis,—liquor ammoniæ sub-carbonatis,—ammoniæ murias,—spiritus ammoniæ,—spiritus ammoniæ aromaticus,—spiritus ammoniæ fœ-

tidus,—spiritus ammoniæ succinatus,—linimentum ammoniæ fortius,—linimentum ammoniæ sub-carbonatis,—cuprum ammoniatum,—and ferrum ammoniatum.

35. Q. What are the virtues of muriate of ammonia?

A. Cathartic and diuretic, very seldom exhibited internally; but by its production of cold during its solution is used externally to allay inflammatory action.

36. Q. What is calumba?

A. The root of the cocculus palmatus, growing abundantly in the forests of Aibo and Mozambique. The root is taken up in March.

37. Q. Name the officinal preparations of calumba?

A. The infusum calumbæ and tinctura calumbæ.

38. Q. What are the virtues of calumba?

A. Tonic and antiseptic. Dose of the powder from ten grains to thirty, two or three times a day.

39. Q. In what cases may calumba be employed with advantage?

A. In bilious remittent fevers, and diarrhœas arising from a redundancy of bile; in dyspepsia, phthisis, and hectic fever; nausea and vomiting during pregnancy, with a view to allay irritability and strengthen the tone of the stomach and digestive organs. Denman recommended it in the low state of puerperal fever.

40. Q. What decomposition takes place in preparing sub-carbonate of ammonia?

A. *Muriate of ammonia* and *prepared chalk* being used, a decomposition of the substances employed takes place, and the lime of the chalk forms with the muriatic acid of the ammonia a *muriate of lime*, while

the carbonic acid of the chalk unites with the ammonia, forming sub-carbonate of ammonia, which is sublimed by heat.

41. Q. What are acids?

A. Substances which impart to the tongue a sour taste, consisting of an acifiable base, in unison with an acidifying principle. They possess the power of changing the blue, green, and purple juices of vegetables to red; and in combination with alkalies, earths, or metallic oxides, they form various salts.

42. Q. What are the acids of the London *Pharmacopœia?*

A. The benzöic, citric, strong acetic, diluted acetic, muriatic, nitric, sulphuric, and tartaric acids.

43. Q. Of these, which are directed to be diluted?

A. The nitric and sulphuric acids.

44. Q. What acid is found in opium?

A. Meconic acid.

45. Q. In what does the narcotic principle of opium consist?

A. An alkaline salt called morphia.

46. Q. How is opium obtained?

A. By making incisions in the *capsules* of the *papaver somniferum*, from which it exudes, and is concreted by the sun.

47. Q. Name the preparations of opium.

A. The tinctura opii,—tinctura camphoræ composita,—confectio opii,—extractum opii,—pilulæ saponis cum opio,—pulvis cornu usti cum opio,—pulvis cretæ compositus cum opio,—pulvis ipecacuanhæ compositus,—pulvis kino compositus,—and emplastrum opii.

48. Q. How are acids distinguished with reference to the oxygen they contain?

A. When the base of an acid is saturated with the acidifying principle, it terminates in *ic*, as sulphur*ic* acid; if imperfectly saturated, in *ous*, as sulphur*ous* acid; when there is an excess of oxygen, or the supposed acidifying principle, it is said to be oxygenated and hyper-oxygenated.

49. Q. What are the constituents of all solid vegetable substances?

A. Carbon, hydrogen, oxygen, and azote, in varied proportions.

50. Q. Whence do we receive the acaciæ gummi, and what tree affords it?

A. The gum is imported from Barbary and Morocco; the acacia vera grows nearly in every part of Africa, but the trees which yield the gum exported to this country, grow chiefly in the Atlas Mountains, the tree flowers in July, the gum is obtained in August.

51. Q. What are the constituents of citric acid?

A. Carbon, oxygen, and hydrogen, with water of crystallization.

52. Q. What are the virtues of citric acid?

A. Antiseptic and refrigerant; dose from five grains to a drachm.

53. Q. What is the theory of the process for making citric acid?

A. *Lemon-juice* and prepared *chalk* with diluted *sulphuric acid* are used. While the lime of the chalk forms with the lemon-juice an *insoluble citrate of lime*, the other constituent of the chalk (carbonic acid)

passes off; the sulphuric acid on being added, owing to its superior affinity for the lime, decomposes the citrate, forming an *insoluble sulphate of lime; the citric acid*, being disengaged, is held in solution, and is obtained in crystals by evaporation.

54. Q. To what does ipecacuan owe its active principle?

A. A substance called *emetine*, which when pure is of a reddish brown colour, solid, nearly inodorous, of a slight bitter acrid taste.

55. Q. Whence do we receive, and what plant affords us ipecacuan root?

A. The cephaelis, or callicocca ipecacuanha; a perennial plant, growing in shady moist situations, in the forests of the provinces of Pernambuqua, Bahia, Paulensia, and other provinces of the Brazils—we receive it from Rio Janeiro.

56. Q. How many kinds of ipecacuan are there, and how are they to be distinguished?

A. There are three kinds: the grey, the brown, and white ipecacuan; the grey is larger and more knotted than the brown; the brown is much darker than the grey, and more wrinkled; the white has no wrinkles.

57. Q. Of these which contains the most emetine?

A. The brown root.

58. Q. Name the preparations of ipecacuan.

A. The pulvis ipecacuanhæ compositus, and vinum ipecacuanhæ.

59. Q. In what proportion does opium enter the pulvis ipecacuanhæ compositus?

A. One grain of opium in ten of the powder.

60. Q. What are the virtues of the pulvis ipecacuanhæ compositus?

A. Anodyne and sudorific; dose from two grains to fifteen.

61. Q. What is the dose of the vinum ipecacuanhæ as an emetic?

A. From two fluid drachms to an ounce.

62. Q. What are the virtues of the pulvis ipecacuanhæ?

A. Emetic, expectorant, and diaphoretic.

63. Q. As an emetic, how much ipecacuan would you exhibit to an adult?

A. From ten grains to a scruple.

64. Q. What are the component principles of benzöic acid?

A. Hydrogen 5.16, carbon 74.41, and oxygen 20.43.

65. Q. What is benzoin?

A. The balsamic gum of the styrax benzoin, a native tree of Sumatra: it exudes from incisions made in the bark of the tree, upon which it concretes; the best is of a yellowish colour variegated with white spots; the common is dark and impure.

66. Q. What are the virtues of benzoic acid?

A. Stimulant and expectorant.

67. Q. In preparing benzoic acid what takes place?

A. Benzoin being subjected to heat the acid is sublimed with some empyreumatic oil, from which

it is freed by folding it in blotting paper, and pressing it; and a second sublimation skilfully managed completes the process.

68. Q. What are the qualities of properly prepared benzoic acid?

A. It is in the form of fine needles, white and shining, possesses a peculiar aromatic smell, and is of the specific gravity 0.657.

69. Q. What preparation does benzoic acid enter?

A. The tinctura camphoræ composita.

70. Q. What is acetosella?

A. The rumex acetosella is an indigenous perennial plant, found in woods and other shaded places, flowering in April and May, it has a pleasant acid flavour imparted to it by the super-oxalate of potass it contains.

71. Q. What are the medical virtues of this plant?

A. Antiseptic and refrigerant, dose *ad libitum*.

72. Q. What plant affords the aconiti folia?

A. The aconitum napellus, a narcotic and highly poisonous perennial plant, flowering in July.

73. Q. In what does the narcotic principle of this plant consist?

A. An alkali called aconita.

74. Q. What are the elements of muriatic acid gas?

A. Hydrogen and chlorine.

75. Q. What is the theory of the process for obtaining muriatic acid?

A. *Muriate of soda*, *sulphuric acid*, and *water* are used. The sulphuric acid decomposes the muriate and forms with the soda a *super-sulphate of soda* in the

retort, whilst the muriatic acid passes over into the receiver in a gaseous state, and is condensed by the water placed therein.

76. Q. How is the pix abietina obtained.

A. By making incisions in the bark of the pinus abies, it exudes and concretes, and forms flakes which are separated every fortnight and fresh incisions successively made; it is then melted in a small quantity of water in boilers, and then pressed through coarse cloths.

77. Q. Why is common salt called *muriate* of soda?

A. To shew its *base* and *acid*, it being a compound of *muriatic acid* and *soda*, thus distinguishing it from other salts.

78. Q. In what preparation is muriatic acid used?

A. The tinctura ferri muriatis.

79. Q. What are the virtues of muriatic acid?

A. Tonic, antiseptic, and diuretic: dose from five drops to twenty.

80. Q. What are the virtues of sulphuric acid?

A. Tonic, astringent, and antiseptic.

81. Q. Of the diluted sulphuric acid what dose would you administer?

A. From five drops to half a fluid drachm.

82. Q. What are the constituents of sulphuric acid?

A. Sulphur and oxygen.

83. Q. As a diaphoretic, how much ipecacuan would you exhibit?

A. From one grain to four.

84. Q. What plant affords us elaterium?

A. Momordica elaterium.

85. Q. What are the virtues of the extractum elaterii?

A. Violently cathartic, and in over dose emetic: dose from one-eighth of a grain to two grains, given with much care.

86. Q. Name the preparations of mercury.

A. Hydrargyri nitrico oxydum;—hydrargyri oxydum cinereum;—hydrargyri oxydum rubrum;—hydrargyri oxymurias;—hydrargyri submurias;—hydrargyri sulphuretum nigrum;—hydrargyri sulphuretum rubrum; —hydrargyrum cum creta;—hydrargyrum præcipitatum album;—hydrargyrum purificatum;—liquor hydrargyri oxymuriatis;—pilulæ hydrargyri;—pilulæ hydrargyri submuriatis compositæ;—linimentum hydrargyri;—unguentum hydrargyri fortius;—unguentum hydrargyri nitratis;—unguentum hydrargyri mitius;—unguentum hydrargyri nitrico oxydi;—unguentum hydrargyri præcipitati albi;—emplastrum hydrargyri, and emplastrum ammoniaci cum hydrargyro.

87. Q. In drying alum what change is effected?

A. It is deprived of its water of crystallization.

88. Q. What is alum?

A. A ternary compound of alumine potass, and sulphuric acid, that is, a super-sulphate of alum and potass.

89. Q. Name the preparations of alum.

A. Alumen exsiccatum, and liquor aluminis compositus.

90. Q. What is the composition of muriate of ammonia?

A. Ammonia 31.95, muriatic acid 49.55, and water 18.50.

91. Q. What is nitric acid?

A. A compound of 25.93 nitrogen or azote, and 74.07 oxygen; with different bases it forms the salts called nitrates.

92. Q. What are the virtues of alum?

A. It is an astringent, and is used internally to stop hæmorrhages, obstinate diarrhœas, &c. and externally in form of gargles in cynanche, relaxation of the uvula, aphthæ, and in injections in cases of gleet and leucorrhœa, in lotions, in chronic ophthalmia, &c.

93. Q. What chemical change takes place in preparing nitric acid?

A. *Nitrate of Potass and sulphuric acid* are used. The sulphuric acid decomposes the nitrate, and forms with the potass, a *super-sulphate of potass* (which remains in the retort) whilst the nitric acid passes over into the receiver.

94. Q. Name the officinal preparations of nitric acid.

A. The acidum nitricum dilutum, argenti nitras, unguentum hydrargyri nitratis, hydrargyri nitrico oxydum and spiritus ætheris nitrici.

95. Q. What salt remains in the retort after the distillation of nitric acid?

A. Super-sulphate of potass.

96. Q. What are the virtues of the diluted nitric acid?

A. Tonic, antiseptic, and anti-syphilitic: dose from five drops to thirty. Externally undiluted, it is an escharotic.

97. Q. What are the elements of æther?

A. Hydrogen, carbon, and oxygen.

98. Q. Enumerate the preparations of æther.

A. The spiritus ætheris aromaticus;—spiritus ætheris nitrici;—spiritus ætheris sulphurici;—spiritus ætheris sulphurici compositus;—ætheris sulphuricus;—ætheris rectificatus;—oleum æthereum.

99. Q. What are the properties of nitric acid?

A. Pure nitric acid is nearly colourless like water; for if of an orange tinge the presence of nitrous acid gas is indicated; it emits white suffocating fumes on exposure to the air, it is highly corrosive and tinges the skin yellow, with various bases it forms nitrates, strong nitric acid sets oils on fire, heat volatilizes, and light and simple combustibles decompose it.

100. Q. What peculiar effect has heat upon alumine?

A. It contracts, and renders it extremely hard.

101. Q. To what is the transparency and form of crystals owing?

A. The water of crystallization they contain.

102. Q. What plant is camphor obtained from?

A. The laurus camphora.

103. Q. In drying the sub-carbonate of soda what takes place?

A. Its water of crystallization is evaporated.

104. Q. What is lactuca?

A. The lactuca sativa, or garden lettuce.

105. Q. What are the preparations of the lettuce.

A. It affords but one preparation, an extract prepared from the expressed juice of its leaves.

106. Q. What are the virtues of the extractum lactucæ.

A. It is a narcotic, and may be employed with great advantage to allay the cough of phthisis pulmonalis, and in peculiar cases, where opium cannot be given. Dose from one grain to six or ten.

107. Q. In what does the narcotic principle of the extract of lettuce consist?

A. The same principle discovered by Serturner in opium and termed Morphia.

108. Q. What are the components of potass?

A. A metal called potassium, and oxygen.

109. What are the constituents of soda?

A. A metallic base called sodium, and oxygen.

110. Q. In preparing the potassæ sulphas, *super-sulphate of potass and subcarbonate of potass* are used; what decomposition takes place?

A. The excess of sulphuric acid decomposes the subcarbonate, and becomes saturated by the potass; *sulphate of potass* is thus formed, whilst the carbonic acid of the sub-carbonate escapes in a gaseous state.

111. Q. What are the virtues of the sulphate of potass?

A. Cathartic: dose from one scruple to six or eight drachms.

112. Q. Name the preparations of potass.

A. The liquor potassæ;—liquor potassæ sub-carbonatis;—potassa cum calce;—potassa fusa;—potassæ acetas;—potassæ carbonas;—potassæ sub-carbonas;—potassæ sulphas;—potassæ super-sulphas;—potassæ tartras.

113. Q. In making the liquor potassæ what takes place?

A. *Fresh lime, sub-carbonate of potass*, and *distilled water* are used: the lime forms with the carbonic acid an insoluble carbonate of lime, leaving the potass dissolved in the water.

114. Q. What are the virtues of the liquor of potass?

A. Antacid and lithontriptic: dose from five drops to thirty.

115. Q. Name the preparations of the liquor of potass?

A. Potassa cum calce, and potassa fusa.

116. Q. What is galbanum?

A. The gum resin of the bubon galbanum, a perennial plant, native of Africa and of Syria, flowering in June and July; it is obtained by wounding the stem of the plant a few inches above the root, from which a cream coloured juice exudes and concretes, it is then collected; it is imported from the Levant.

117. Q. Name the preparations of the Galbani gummi-resina.

A. Pilulæ galbani compositæ and Emplastrum galbani compositum.

118. Q. What is the chemical composition of the cuprum ammoniatum?

A. It is a sub-sulphate of ammonia and copper.

119. Q. Name the preparations of copper.

A. The cupri sulphas, cuprum ammoniatum, and liquor cupri ammoniati.

120. Q. What are the virtues of the cupri sulphas?

A. Emetic, astringent, tonic: dose from a quarter of a grain to four grains.

121. Q. What do you understand by a triple or ternary salt?

A. A salt consisting of two bases and an acid, as the *tartarized antimony*, it being a compound of potass, antimony, and tartaric acid.

122. Q. What decomposition takes place in making the liquor ammoniæ acetatis?

A. *Sub-carbonate of Ammonia* and *diluted acetic acid* are used. While the ammonia forms with the acetic acid a saturated solution of *acetate of ammonia*, the carbonic acid escapes in a gaseous form.

123. Q. What are the virtues of the liquor ammoniæ acetatis?

A. Diaphoretic; dose from a fluid drachm to an ounce.

124. Q. What preparation of antimony is expunged from the present Pharmacopœia.

A. The oxide of antimony.

125. Q. Name the preparations of antimony.

A. The antimonii sulphuretum præcipitatum;—antimonium tartarizatum;—vinum antimonii tartarizati;—pulvis antimonialis;—pilulæ hydrargyri submuriatis compositæ.

126. Q. What preparation of antimony enters the pilulæ hydrargyri submuriatis compositæ?

A. The antimonii sulphuretum præcipitatum.

127. Q. What changes are effected in making the pulvis antimonialis?

A. *Sulphuret of antimony* and *hartshorn shavings* are employed. The heat drives off the sulphur, leaving the antimony oxidized; the gelatin of the hartshorn

shavings is destroyed, and the phosphate of lime which remains becomes mixed with the oxide of antimony.

128. Q. What are the components of antimonial powder?

A. In one hundred parts it contains about forty-three of phosphate of lime, and fifty-seven of oxide of antimony.

129. Q. What are the virtues of the antimonial powder?

A. Diaphoretic and alterative: dose from three grains to ten; in larger quantities it will *excite* the stomach and operate upon the bowels.

130. Q. Name the preparations of the aloës spicatæ.

A. The decoctum aloës compositum;—extractum aloës;—extractum colocynthidis compositum;—tinctura aloës;—tinctura aloës composita;—tinctura benzoini composita;—vinum aloës;—pulvis aloës compositus;—pilulæ aloës cum myrrha;—pilulæ aloës compositæ;—pilulæ cambogiæ compositæ;—aloës spicatæ extractum.

131. Q. What are the components of the ferrum tartarizatum?

A. Tartaric acid, oxide of iron, and potass.

132. Q. What decompositions take place in preparing the tartarized iron?

A. *Iron*, *super-tartrate of potass*, and *water* are used. The iron is oxidized by attracting oxygen from the atmospheric air and water; the superabundant tartaric acid unites with this oxide, and a triple or ternary compound is obtained, which is a tartrate of iron and of potass.

133. Q. What are the constituents of sulphuric acid?

A. One hundred parts of sulphuric acid contain forty of sulphur, and sixty of oxygen.

134. Q. How is sulphuric acid prepared?

A. Water is placed about an inch deep in close chambers lined with lead, an earthern pot is then introduced, upon stands, containing about nine parts of sulphur, and one of nitrate of potass, which is set fire to with an iron rod, and the door closed. The theory of the formation of the acid is thus: the oxygen of the air, and of the nitre, keeps up the combustion of the sulphur, sulphurous acid gas and nitrous acid are formed, and, uniting, lose their gaseous qualities and come in contact with the water, where the sulphurous acid is converted into sulphuric acid by the oxygen of the nitrous acid, and is dissolved by the water, while the nitrous gas ascends to the roof of the chamber, at the aperture of which it attracts fresh oxygen from the air, and again descends, as a nitrous acid re-forms with the sulphurous acid gas it meets in its way, and when it comes in contact with the water, parts with its oxygen, and is disengaged as before, and so on until the process is completed. Frequent supplies of sulphur and nitre are made before the water is sufficiently acidified; it is then purified and concentrated by evaporation and boiling in glass retorts.

135. Q. What are the properties of liquor of ammonia?

A. It is a limpid, colourless fluid, of an acrid taste and strong pungent odour, it corrodes the skin, and unites with all the acids without effervescence, forming neutral salts.

136. Q. If liquid ammonia contain carbonic acid, how may it be detected?

A. The liquid will effervesce on mixing it with acids.

137. Q. What is the theory of the process for preparing acetate of potass?

A. *Sub-carbonate of potass* and strong *acetic acid* are used. The sub-carbonate is decomposed by the acetic acid and while it forms with the potass an *acetate of potass* in solution, the carbonic acid escapes.

138. Q. What are the virtues of the acetate of potass?

A. Diuretic and cathartic; dose from ten grains to three drachms.

139. Q. Name the preparations of lead.

A. Liquor plumbi subacetatis;—liquor plumbi subacetatis dilutus;—plumbi acetas;—emplastrum plumbi;—plumbi subcarbonas;—plumbi oxydum semivitreum.

140. Q. What is phosphoric acid?

A. A compound consisting of a peculiar substance called phosphorus, and oxygen.

141. Q. What is honey?

A. Sugar dissolved in mucilage; it is chiefly formed in the pistils of the female organs of flowers, whence it is gathered by bees.

142. Q. Name the preparations of honey.

A. Mel despumatum;—mel boracis;—mel rosæ;—oxymel simplex;—and oxymel scillæ.

143. Q. What is wax?

A. A vegetable substance collected by bees from the anthers of flowers, insoluble in water and alkohol,

but soluble in volatile and fixed oils, and is highly inflammable.

144. Q. What is hydrogen?

A. The base of the gas which has been called inflammable air, and is in the aëriform state the lightest of all substances.

145. Q. What are the properties of hydrogen?

A. It is twelve times lighter than air, has a peculiar disagreeable smell, supports flame only when in contact with oxygen.

146. Q. What are the constituent elements of oil?

A. Carbon, hydrogen, and a small portion of oxygen.

147. Q. How are oils distinguished?

A. Into fixed and volatile.

148. Q. How are oils obtained?

A. Fixed oils are usually obtained by pressure from seeds and kernels of plants; and volatile or essential oils by distillation from aromatic plants.

149. Q. What is there peculiar to animal oil?

A. It is generally solid at the temperature of the atmosphere; it contains more oxygen and sebacic acid than the vegetable oils.

150. Q. When a metal has chemically combined with oxygen, what is it called?

A. An oxide.

151. Q. When a combustible substance is combined with an earth or metal, how is it distinguished?

A. By the combustible terminating in *uret*, as sulph*uret* of lime, &c.; the metal or earth retaining its proper name.

152. Q. How is alkohol prepared?

A. By distillation from vegetable infusions that have undergone spirituous fermentation.

153. Q. Name the principal antiseptics.

A. All the acids, quassia, æther, wine, opium, camphor, and the barks.

154. Q. Name the carbonates used.

A. The carbonates of lime, magnesia, potass, zinc, iron, soda, and ammonia.

155. Q. What decompositions are effected in preparing the sulphate of iron?

A. *Iron*, *sulphuric acid*, and *water*, are used. The iron decomposes part of the water, and is oxidized at the expense of some of its oxygen, the hydrogen of the decomposed water escapes; and the sulphuric acid forms with the oxide of iron a sulphate of iron, which is dissolved by the undecomposed water.

156. Q. What are the virtues of the ferri sulphas?

A. Tonic and emmenagogue: dose from one grain to five.

157. Q. What substances will decompose sulphate of iron?

A. The earths, alkalies and their carbonates, borate of soda, acetate and superacetate of lead, nitrate of silver and every salt, the base of which forms an insoluble compound with sulphuric acid, with many other substances not used in the pharmacopœia.

158. Q. What is kino?

A. The extract of the Pterocarpus Erinacea, an African tree; it is imported into this country from India in chests, on the inside of each lid is a paper stating it to be the produce of Amboyna; it is an astringent: dose from ten grains to half a drachm.

159. Q. What preparation of kino is there?

A. The tinctura kino.

160. Q. What are the virtues and uses of kino?

A. Kino is a powerful astringent; it is employed in hæmorrhages, fluor albus, and obstinate diarrhœas: dose from ten grains to twenty.

161. Q. What substances would you avoid in prescriptions with kino?

A. Solutions of isinglass, muriate of mercury, sulphate of iron, nitrate of silver, tartarized antimony, superacetate of lead, the strong acids, and the alkalies.

162. Q. What is the proportion of mercury in the pilulæ hydrargyri?

A. One grain of mercury in three of the pill.

163. Q. What is the strength of the mild mercurial ointment?

A. Six drachms of the ointment contain one drachm of mercury.

164. Q. What is the proportion of mercury in the unguentum hydrargyri fortius?

A. In two drachms there is one drachm of mercury.

165. Q. In preparing the vinum ferri, *supertartrate of potass*, *iron*, *water*, and *spirit* are used; what takes place?

A. The iron being exposed to the air attracts oxygen, the excess of tartaric acid, takes up the oxide of iron as it forms: thus we obtain a tartrate of iron and potass, which is held in solution by the spirit and water.

166. Q. In what cases is the wine of iron employed?

A. It is chiefly administered in chlorosis, and to females of relaxed habit.

167. Q. What are the virtues of the vinum ferri?

A. Tonic and emmenagogue: dose from one fluid drachm to three or four three times a day.

168. Q. What is effected in making nitric oxide of mercury?

A. *Purified mercury*, *nitric acid*, and *water*, are used. The mercury is first oxidized by effecting a decomposition of part of the nitric acid, some nitrous gas escapes, and the oxide of mercury is dissolved as it forms by the remaining acid, forming a *nitrate of mercury;* as the heat is increased, the acid and water are nearly expelled, and the preparation reduced to a *sub-nitrate* of mercury.

169. Q. What are the properties of good nitric oxide of mercury?

A. When properly prepared, it is in small scales of a bright red colour, very acrid and corrosive, insoluble in water, but soluble in nitric acid without effervescence, is volatilized and decomposed in a red heat.

170. Q. What preparation does the nitric oxide of mercury afford in the pharmacopœia?

A. The unguentum hydrargyri nitrico oxydum.

171. Q. What are the virtues of the submuriate of mercury?

A. Cathartic, alterative, and antisyphilitic.

172. Q. As a cathartic, how much may be administered?

A. From two grains to ten.

173. Q. As an alterative what would be your dose?

A. From a quarter of a grain to a grain.

174. Q. In what preparations is the subcarbonate of iron employed?

A. In preparing the ferrum ammoniatum and the tinctura ferri muriatis.

175. Q. What preparation of iron is used in the pilulæ ferri cum myrrha?

A. The ferri sulphas.

176. Q. Name the preparations of chalk.

A. The mistura cretæ;—pulvis cretæ compositus cum opio; hydrargyrum cum creta; and the pulvis cretæ compositus, &c.

177. Q. What are the preparations of lime?

A. The liquor calcis and the potassa cum calce.

178. Q. What are the virtues of the liquor calcis?

A. Tonic, antacid, astringent and anthelmintic; dose from a fluid ounce to half a pint.

179. Q. What are sulphates?

A. Definite compounds of sulphuric acid with the salifiable bases.

180. Q. Name the sulphates of the pharmacopœia.

A. The sulphates of soda, potass, magnesia, iron, and zinc.

181. Q. Name the preparations of magnesia.

A. Magnesia;—magnesiæ carbonas;—magnesiæ sulphas.

182. Q. What is the composition of magnesia?

A. A metal called magnium, and oxygen.

183. Q. What are the virtues of magnesia?

A. Antacid, and mildly cathartic; dose from ten grains to two or three drachms.

184. Q. What are the properties of squills?

A. In small doses stimulating, diuretic, and expectorant; in larger doses purgative and emetic. Dose of the dried squill from one grain twice a day gradually increased to five.

185. Q. What plant affords us the radix scillæ?

A. The scilla maritima; a native of Spain, Syria, Barbary, and Sicily, flowering in April and May. There are two kinds of roots, a white and reddish bulb; both are brought from the Levant, and possess the same virtues.

186. Q. In what does the bitter principle of the squill consist?

A. A white, transparent, and pulverulent substance, procured from the bulb of the squill called scillitin.

187. Q. Name the officinal preparations of squills.

A. Acetum scillæ, pilulæ scillæ compositæ, tinctura scillæ, and oxymel scillæ.

188. Q. What substances will decompose subcarbonate of ammonia?

A. The acids, fixed alkalies, and their subcarbonates, the metallic salts, lime, super-tartrate of potass, sulphate of magnesia, &c.

189. Q. To ascertain the purity of the submuriate of mercury, what test would you select?

A. Lime water, which, if pure, will turn it black; if it contain any corrosive muriate, a yellow tint will be observed.

190. Q. What substances will decompose the submuriate of mercury?

A. Sulphurets of potass and antimony, lead, copper, soap, and iron.

191. Q. Name the preparations of soda.

A. Sodæ murias;—sodæ sub-boras;—sodæ sulphas;—soda impura;—soda tartarizata;—sodæ carbonas;—sodæ sub-carbonas exsiccata.

192. Q. Name the native muriatic salts.

A. Muriate of lime;—muriate of soda;—muriate of ammonia;—and muriate of magnesia.

193. Q. Give an example of a double decomposition.

A. If to a solution of sub-carbonate of potass a solution of sulphate of magnesia be added, and the liquor boiled, there will be an exchange of acids, and two new compounds formed, thus: the magnesia will give its sulphuric acid to the potass, forming in solution, a *sulphate of potass;* and the potass its carbonic acid to the magnesia, forming an *insoluble carbonate of magnesia.*

194. Q. What are the components of submuriate of mercury?

A. According to Chenevix, mercury, 79; oxygen, 9.5; muriatic acid, 11.5; or choride, 14.9; mercury, 85.1.

195. Q. What are the virtues of digitalis?

A. Narcotic, diuretic, and sedative, it diminishes the action and strength of the circulation: dose of the powder from one grain to three.

196. Q. Name the preparations of digitalis.

A. The tinctura digitalis and *infusum digitalis.*

197. Q. Which is the most active, the fresh or dried squill root?

A. The dried, owing to the water contained in the fresh.

198. Q. How many species of cinchona are directed to be kept?

A. Three: the *cortex cinchonæ lancifoliæ*, called pale or quilled bark; *cortex cinchonæ oblongifoliæ*, or red bark; and the *cortex cinchonæ cordifoliæ*, or yellow bark.

199. Q. What are the constituents of arrow-root?

A. Carbon, oxygen, hydrogen, and a small portion of nitrogen.

200. Q. In what does the astringent principle of oak bark consist?

A. A substance called tannin, which exists in many other vegetables.

201. Q. Name the principal officinal substances which afford tannin.

A. Rhubarb, cinchona barks, kino, willow bark galls, uva ursi, tormentil, catechu simarouba, &c.

202. Q. Whence do we receive the Spanish flies?

A. They are imported from Sicily. They are found on the ash, white poplar, elder, &c. in Italy, Spain, and France.

203. Q. In what does the active principle of Spanish flies consist?

A. A peculiar substance which has received the name of cantharidin.

204. Q. Name the volatile oils of the pharmacopœia.

A. Oleum anisi;—oleum anthemidis;—oleum carui;—oleum juniperi;—oleum lavendulæ;—oleum menthæ piperitæ;—oleum menthæ viridis;—oleum origani;—oleum pimentæ;—oleum pulegii;—oleum rosmarini;—oleum succini;—oleum terebinthinæ rectificatum;—oleum caryophylorum, and oleum cajuputi.

205. Q. Whence do we receive camphor?

A. Chiefly from Japan.

206. Q. What plant affords us camphor?

A. The laurus camphora.

207. Q. Name the tartaric salts of the pharmacopœia.

A. The super-tartrate of potass;—tartrate of potass, tartrate of soda and potass (called tartarized soda);—tartrate of antimony and potass (called tartarized antimony);—tartrate of iron and potass (called tartarized iron).

208. Q. Name the infusions of the pharmacopœia.

A. Infusum anthemidis;—infusum armoraciæ compositum;—infusum aurantii compositum;—infusum calumbæ;—infusum caryophyllorum;—infusum cascarillæ;—infusum catechu compositum;—infusum cinchonæ;—infusum cuspariæ;—infusum digitalis;—infusum gentianæ compositum;—infusum lini compositum;—infusum quassiæ;—infusum rhœi;—infusum rosæ compositum;—infusum sennæ compositum;—infusum simaroubæ;—infusum tabaci.

209. Q. Name the preparations of the cinchona barks.

A. Decoctum cinchonæ;—infusum cinchonæ;—extractum cinchonæ;—extractum cinchonæ resino-

um;—tinctura cinchonæ;—tinctura cinchonæ composita;—tinctura cinchonæ ammoniata.

210. Q. In making the different preparations of bark, which species of cinchona is to be used?

A. The cortex cinchonæ lancifoliæ, the quilled or pale bark (or crown bark).

211. Q. What are the virtues of cinchona bark?

A. Tonic, febrifuge, astringent, and stomachic: dose from five grains to three drachms.

212. Q. What is the botanical name of the tree which affords us cinnamon?

A. Laurus cinnamomum.

213. Q. In making the tinctura benzöini composita, what do you employ?

A. Benzoin, balsam of storax, balsam of tolu, extract of spiked aloes, and rectified spirit.

214. Q. What are the virtues of chalk?

A. Antacid, absorbent: dose from ten grains to two drachms.

215. Q. What salt remains in the retort, after the distillation of muriatic acid?

A. Super-sulphate of soda.

216. Q. Give the decomposition accomplished in preparing sulphate of soda.

A. *Super-sulphate of soda* and *sub-carbonate* of *potass* are used: as the *soda* saturates the super-abundant acid its *carbonic* acid escapes; and a sulphate of soda is the result.

217. Q. What are the virtues of ammoniacum?

A. Antispasmodic and expectorant: dose from five grains to twenty.

218. Q. Name the preparations of ammoniacum.

A. Pilulæ scillæ compositæ;—emplastrum ammoniaci;—mistura ammoniaci;—emplastrum ammoniaci cum hydrargyro.

219. Q. What is ammoniacum the produce of?

A. The heracleum gummiferum; it is received from the East-Indies.

220. Q. In cases where poison has been taken, what emetic would you prefer?

A. The sulphate of zinc.

221. Q. As an emetic, how much sulphate of zinc would you exhibit?

A. From ten grains to twenty.

222. Q. In making the mistura moschi what articles are employed?

A. Musk, acacia gum, purified sugar, and rose-water.

223. Q. Name the expressed oils of the pharmacopœia.

A. Oleum amygdalarum, oleum lini, oleum ricini, and oleum oliviæ.

224. Q. What plant affords the rhatany root?

A The krameria triandra.

225. Q. Does any decomposition take place in preparing the sub-carbonate of soda?

A. No, but the impure soda contains earthy and alkaline salts, of which by the process it is deprived.

226. Q. What plant affords the garlic root?

A. The allium sativum.

227. Q. What are the virtues of the dried sub-carbonate of soda?

A. Antacid, diuretic and lithontriptic: dose from five grains to half a drachm.

228. Q. What are the components of tartarized soda?

A. Tartaric acid, potass, soda and water of crystallization.

229. Q. In the preparation of mercury with chalk, how much mercury is there?

A. One grain of mercury in about three of the powder.

230. Q. What enters the confectio aromatica?

A. Cinnamon-bark, nutmegs, cloves, cardamom-seeds, saffron, prepared oyster-shells, purified sugar, and water.

231. Q. What are the virtues of the mezerei cortex?

A. Stimulating, diaphoretic; dose from one grain to ten.

232. Q. What is the systematic name of the tree from which the mezerei cortex is obtained?

A. Daphne mezereum.

233. Q. Where does the daphne mezereum grow?

A. It grows wild in England and the north of Europe, for medicinal purposes, and as an ornamental shrub, it is cultivated in our gardens; the roots are dug up in autumn after the leaves have fallen.

234. Q. What officinal preparation does it enter?

A. The compound decoction of sarsaparilla.

235. Q. Name the plant of the pyrethri radix.

A. Anthemis pyrethrum.

236. Q. Whence do we receive the pyrethri radix?

A. The pellitory root is brought to us from the Levant and the coast of Barbary.

237. Q. What are the virtues of pyrethri radix?

A. Sialogue and stimulant; dose from two grains to ten.

238. Q. What is cetaceum?

A. A spongy oily mass, obtained from the head of the physeter macrocephalus, a species of whale which chiefly inhabits the southern ocean, although some are seen in the European seas: it is brought into this country in barrels, where it is purified.

239. Q. What is understood by fusion?

A. The reduction of bodies by the assistance of heat into a state of fluidity.

240. Q. What is assafœtida?

A. The gum resin of the *ferula assafœtida* growing in the south of Persia, obtained by making incisions in the root of the plant, from which it exudes, the best is clear and of a pale reddish colour.

241. Q. What are the virtues of assafœtida?

A. Expectorant, antispasmodic, anthelmintic; dose from five grains to a scruple.

242. Q. Name the preparations of assafœtida.

A. The tinctura assafœtidæ;—spiritus ammoniæ fœtidus;—mistura assafœtidæ;—pilulæ galbani compositæ.

243. Q. What are the qualities of the liquor of subcarbonate of ammonia?

A. It should be of the specific gravity of 1.150, and

if shaken with twice its bulk of alkohol form a uniform coagulum.

244. Q. Of what is metallic antimony composed?

A. A metal with sulphur.

245. Q. Name the antacids of the pharmacopœia.

A. Lime, soda, potass, magnesia, oyster-shells, and chalk.

246. Q. How is the potassa fusa prepared?

A. Take of liquor of potass a gallon; evaporate the water in a clean iron vessel over the fire, until the ebullition having ceased, the potass melts; pour off this upon an iron plate into convenient forms.

247. Q. In fusing potass what is effected?

A. The water being evaporated, the potass is left in a solid form.

248. Q. What is the use of fused potass?

A. Externally as an escharotic.

249. Q. What is effected in preparing the arsenical liquor?

A. A union takes place between the arsenious acid and the potass, forming a solution of *arseniate of potass.*

250. Q. Name the mixtures of the pharmacopœia.

A. Mistura ammoniaci;—mistura amygdalarum;—mistura assafœtidæ:—mistura camphoræ;—mistura cornu usti;—mistura cretæ;—mistura ferri composita;—mistura guaiaci;—mistura moschi.

251. Q. Name the spirits of the pharmacopœia.

A. Alcohol;—spiritus ammoniæ;—spiritus ammoniæ aromaticus;—spiritus ammoniæ fœtidus;—spiritus ammoniæ succinatus;—spiritus anisi;—spiritus

armoraciæ compositus;—spiritus camphoræ;—spiritus carui;—spiritus cinnamomi;—spiritus juniperi compositus;—spiritus lavendulæ;—spiritus lavendulæ compositus;—spiritus menthæ piperitæ;—spiritus menthæ viridis;—spiritus myristicæ;—spiritus pimentæ;—spiritus pulegii;—spiritus rosmarini;—spiritus ætheris aromaticus;—spiritus ætheris nitrici;—spiritus ætheris sulphurici;—spiritus ætheris sulphurici compositus, and spiritus colchici ammoniatus.

252. Q. Name the wines of the pharmacopœia.

A. The vinum aloës;—vinum ipecacuanhæ;—vinum opii;—vinum veratri;—vinum ferri;—vinum colchici;—vinum antimonii tartarizati.

253. Q. What is scammony.

A. A concrete juice extracted from the roots of the convolvulus scammonia, which grows in Asiatic Turkey: we receive it from Aleppo, consisting of gummy extract and resin.

254. Q. What are the virtues of scammony?

A. Cathartic and hydragogue; dose from five grains to ten.

255. Q. Name the preparations of scammony.

A. Confectio scammoniæ;—pulvis scammoniæ compositus.

256. Q. What tree affords the cascarillæ cortex?

A. The croton cascarilla, or croton eleutheria, a native tree of the Bahama islands: cascarilla bark is imported chiefly from Eleutheria, one of these islands.

257. Q. What are the properties of the cascarilla bark?

A. Tonic and stomachic: dose from six grains to two scruples.

258. Q. What is meant by the deliquescence of a salt?

A. Some salts (having a great affinity for water) on being exposed to the atmosphere, absorb it and become moist; they are in this case said to deliquesce.

259. Q. What is castor?

A. A substance of a red brown colour, possessing a peculiar strong aromatic odour, and a bitter sub-acrid nauseous taste, obtained from the external genitals of a four-footed amphibious animal called the beaver, found in the northern parts of Asia, America, and Europe, inhabiting woody banks of rivers and lakes; the best castor is received from Russia: it is also imported from Canada.

260. Q. In what cases may castor be exhibited with advantage?

A. In epilepsy, nervous fevers, hysteria and spasmodic diseases. It has also been recommended (owing to its supposed action upon the uterine system) in chlorosis and amenorrhœa.

261. Q. What are the virtues of castor?

A. Antispasmodic and emmenagogue: dose from ten grains to thirty.

262. Q. What proportion of opium is there in the tinctura opii?

A. Nineteen minims contain about one grain of opium.

263. Q. What is the cassiæ pulpa the produce of?

A. It is the fruit of the cassia fistula, a tree resem-

bling the walnut, a native of the East and West Indies, and Egypt; the best comes from the East.

264. Q. From what part of the cassia fistula is the pulp obtained?

A. From the fruit or pods.

265. Q. What is the principal virtue and dose of the cassiæ pulpa?

A. Gently laxative; dose from two drachms to an ounce: seldom used, being very apt to cause griping pains, nausea, &c.

266. Q. What tree is the abietis resina obtained from?

A. The pinus abies.

267. Q. What are sialogues?

A. Medicines which increase the secretion of saliva.

268. Q. Give the components of vegetable acids.

A. Hydrogen, carbon, and oxygen.

269. Q. When zinc is exposed to a strong heat what takes place?

A. It attracts oxygen from the air: a white oxide is the result.

270. Q. What plant affords us gentian root, and whence do we receive it?

A. The gentiana lutea, a perennial plant growing in Switzerland, and Austria, the Pyrennees, Apennines, and in North America; the roots are brought to us from Germany.

271. Q. What are the virtues of gentian root?

A. Tonic and stomachic: dose from ten grains to half a drachm.

272. Q. Name the preparations of gentian.

A. The extractum gentianæ;—infusum gentianæ compositum, and the tinctura gentianæ composita.

273. Q. In what proportion does opium enter the compound tincture of camphor?

A. Half an ounce of the tincture contains about one grain of opium.

274. Q. To what plant does the veratri radix belong?

A. The veratrum album; it grows spontaneously in the mountainous parts of Greece, Italy, Switzerland and Russia.

275. Q. What are the preparations of white hellebore root?

A. The decoctum veratri, unguentum veratri, and unguentum sulphuris compositum.

276. Q. What is manna?

A. The concrete juice of the fraxinus ornus, a tree of the ash kind, which grows in Italy and Sicily; it exudes spontaneously from the stems and branches, and is also obtained by making long incisions in the trunk of the tree: it is collected from June to September.

277. Q. In what cases may the preparations of gentian be given with advantage?

A. They have been recommended in gout, jaundice, hysteria, dyspepsia, chlorosis, and intermittents: they may, if required, be combined with aromatics, neutral salts, acids, chalybeates, &c.

278. Q. In cases of poison by veratrum, what antidote would you prefer?

A. An infusion of nut-galls.

279. Q. What preparation of the pharmacopœia does manna enter?

A. The confectio cassiæ.

280. Q. What is the medicinal virtue of manna?

A. Gently laxative: dose for children from one drachm to four, and for adults to two ounces.

281. Q. To what does the white hellebore owe its active properties?

A. To an alkaline principle which has been named veratrine.

282. Q. What are the medical properties of veratri radix?

A. It is a violent emetic and cathartic: dose from half a grain to two grains: locally and externally it is employed as a stimulant and errhine.

283. Q. What is musk?

A. A peculiar substance not unlike dried clotted blood, found in a small bag near the umbilical region of the moschus moschiferus, or musk deer; it is imported from China, Bengal, and Russia, the best from China; that received from Russia is very inferior.

284. Q. What are the virtues of moschus?

A. Antispasmodic, and stimulant: dose from one grain to one drachm every six or eight hours.

285. Q. What preparation of musk enters the pharmacopœia?

A. The mistura moschi.

286. Q. In what cases is musk useful?

A. In all spasmodic diseases, particularly in epilepsy,

it is also exceedingly beneficial in the low stages of typhus fevers.

287. Q. What are anthelmintics?

A. Medicines which possess the power of destroying worms.

288. Q. To what plant does the bistortæ radix belong?

A. The polyganum bistorta, growing in moist soils in many parts of England and Austria.

289. Q. What are the virtues of bistortæ radix?

A. Astringent and tonic: dose from five grains to one drachm.

290. Q. In preparing the potassæ tartras, *super-tartrate of potass*, *sub-carbonate of potass* and *water* are used, what is the theory of the process?

A. The sub-carbonate is decomposed by the excess of tartaric acid of the super-tartrate, its carbonic acid escapes, and the potass is taken up by the superabundant acid, a tartrate of potass being thus formed.

291. Q. What are the virtues of the tartrate of potass.

A. Cathartic: dose from half a drachm to an ounce.

292. Q. What are the constituents of the tartrate of potass?

A. It is a neutral salt, consisting of potass, tartaric acid, and water of crystallization.

293. Q. What is jalap?

A. The root of the convolvolus jalapa, a native of South America, growing in dry sandy soils, and flowering in August; the best is received from Vera Cruz.

294. Q. Name the preparations of jalap root.

A. The tinctura jalapæ, and extractum jalapæ.

295. Q. What are the virtues of the tinctura cantharidis?

A. Diuretic and stimulant: dose from ten drops to thirty.

296. Q. To what plant does the radix rhei belong?

A. The rheum palmatum, a native of China and Tartary, and is cultivated in this and other countries. Three sorts of rhubarb are imported into England, from Turkey, the East Indies, and China: the former is the most esteemed.

297. Q. What are the properties of rhubarb?

A. Cathartic, stomachic, and astringent: dose from five grains to half a drachm.

298. Q. Name the preparations of rhubarb?

A. The tinctura rhei, tinctura rhei composita, and infusum rhei.

299. Q. In what cases is rhubarb most beneficial?

A. As a stomachic and astringent it is given with advantage in a relaxed state of the bowels, combined with aromatics, and in dyspepsia, hypochondriasis, &c. It is very useful as a purgative in diarrhœas, and may be safely administered to infants.

300. Q. What is ærugo, or verdigris?

A. An impure sub-acetate of copper.

301. Q. What are the properties of ærugo?

A. Emetic and alterative; seldom used: dose from one-eighth of a grain to half a grain.

302. Q. What are the virtues of the sub-carbonate of iron?

A. Tonic and emmenagogue: dose from three grains to ten.

303. Q. What decomposition is effected in the process for making sub-carbonate of iron; *water*, *sub-carbonate of soda*, and *sulphate of iron* being used.

A. An exchange of acids takes place: the soda taking the sulphuric acid of the iron, forming in solution a *sulphate of soda;* while the iron takes the carbonic acid of the soda, forming an insoluble *sub-carbonate of iron.*

304. Q. What are the virtues of the liquor ammoniæ?

A. It is administered principally as an antacid: dose from five drops to fifteen or twenty.

305. Q. How is the potassa impura obtained?

A. The dried stems and branches of plants are set fire to and reduced to ashes, these are lexivated by pouring over them hot water, so as to dissolve the alkaline matter they contain, this solution is evaporated to dryness, and the substance obtained is the potass of commerce; we receive it from the Baltic and America.

306. Q. In preparing the liquor of ammonia what chemical changes take place?

A. *Muriate of ammonia*, *fresh lime*, and *water* are used; the muriatic acid of the muriate unites with the lime, forming an *insoluble muriate of lime*, while the *ammonia* is distilled over, and enters into solution with the water.

307. Q. What are the virtues of the ferrum ammoniatum?

A. Tonic and emmenagogue: dose from five grains to fifteen.

308. Q. In preparing ammoniated iron what decompositions take place?

A. With the assistance of heat the carbonic is set free, and the iron unites with a portion of the muriatic acid of the muriate, forming a *sub-muriate of iron* and *ammonia*.

309. Q. What are the virtues of the oxide of antimony?

A. Alterative and diaphoretic: dose from two grains to fifteen.

310. Q. What takes place in making the subnitrate of Bismuth.

A. *Bismuth*, *nitric acid*, and *distilled water* are used: the bismuth is oxidized by oxygen from the nitric acid, and nitrous gas escapes; this oxide of bismuth is taken up by the remaining nitric acid, forming a sub-nitrate of bismuth.

311. Q. What change is effected in making magnesia?

A. *Sub-carbonate of magnesia* being subjected to a fierce heat, the carbonic acid is driven off, and pure magnesia is obtained.

312. Q. What are the virtues of magnesia?

A. Antacid and cathartic; dose from one scruple to two drachms.

313. Q. What are the properties of the red oxide of mercury?

A. It is administered principally as an antisyphilitic: dose from one quarter of a grain to two grains.

314. Q. What chemical decompositions take place in making the red oxide of mercury?

A. The mercury is volatilized by the heat employed; it is thus enabled to attract oxygen from the air, forming a red oxide.

315. Q. What plant affords us the cajaput oil?

A. The melaleuca cajuputi.

316. Q. What are the virtues of ammoniated copper?

A. Antispasmodic; dose from one quarter of a grain to five grains.

317. Q. What name is given to the lapis calcarius of the former pharmacopœia?

A. Marmor album.

318. Q. By what name is the resina nigra of the old Pharmacopœia now distinguished?

A. Pix nigra.

319. Q. How is oil of turpentine obtained?

A. By distilling the resin of the pinus sylvestris or Scotch fir with water.

320. Q. What takes place in preparing ammoniated copper?

A. *Sulphate of copper* and *subcarbonate of ammonia* are used. The ammonia forms with the sulphate of copper a triple salt, consisting of sulphuric acid, ammonia, and copper, whilst the carbonic acid escapes.

321. Q. What are the properties of arsenic?

A. Arsenic is an extremely poisonous metallic substance, generally found in parts of Germany united with acids, oxygen, and sulphur; in its pure metallic state, it is a brilliant metal of a bluish white colour,

has no smell while cold, but when exposed to the power of heat it emits a very strong odour resembling onions or garlic.

322. Q. How is it that atmospheric air supports life?

A. By furnishing the blood with oxygen and caloric.

323. Q. What is chalk called by chemists?

A. Carbonate of lime: being a compound of carbonic acid and lime.

324. Q. What are the virtues of the ammoniated tincture of iron?

A. Tonic and emmenagogue: dose from ten drops to a fluid drachm.

325. Q. What articles are used in making the compound decoction of sarsaparilla?

A. Decoction of sarsaparilla, sassafras root, guaiacum root, guaiacum-wood shavings, liquorice root bruised, and bark of the mezereon root.

326. Q. What are the virtues of the decoctum sarsaparillæ compositum?

A. Antisyphilitic, diuretic, aad alterative: dose from a quarter to half a pint.

327. Q. In preparing the tinctura gentianæ composita what articles are used?

A. Gentian root, orange peel, cardamom seeds, and proof spirit.

328. Q. What do you understand by expectorants?

A. Medicines which will induce a free discharge of mucus from the lungs.

329. Q. In what kind of cases is assafœtida exhibited?

A. In *hysteria*, flatulent colics, hypochondriasis;

sometimes in dyspepsia: its principal virtue being antispasmodic, it is employed in most spasmodic affections.

330. Q. In what proportion does the oxymuriate enter the liquor of oxymuriate of mercury?

A. One grain of oxymuriate is contained in two fluid ounces of the liquor.

331. Q. What are the virtues of the liquor hydrargyri oxymuriatis?

A. Alterative and antisyphilitic.

332. Q. What are the virtues of the mistura ferri composita?

A. Tonic and emmenagogue: dose from half a fluid ounce to two ounces.

333. Q. What takes place in preparing the mistura ferri composita?

A. *Sulphate of iron, sub-carbonate of potass, water, myrrh, spirit of nut-meg,* and *sugar* are used: the sulphuric acid of the iron forms with part of the potass a *sulphate of potass* in solution, while the carbonic acid of the potass forms with the iron a *proto-carbonate of iron,* which is suspended in the mixture by the excess of potass forming with the myrrh a saponaceous compound.

334. Q. What are the virtues of the carbonate of potass?

A. Antacid and diuretic: dose from ten grains to half a drachm.

335. Q. What is the use of the white precipitated mercury?

A. It is employed externally, as a detergent.

336. Q. Give the decompositions and chemical

changes in preparing the hydrargyrum præcipitatum album?

A. *Oxymuriate of mercury, muriate of ammonia, liquor of sub-carbonate of potass*, and *water*, are used. The muriate of ammonia combines with the oxymuriate of mercury, and renders it more soluble in water: thus we obtain a super-muriate of mercury and ammonia; the sub-carbonate of potass being added, the potass takes a portion of the muriatic acid, and remains in solution; a muriate of ammonia and mercury being precipitated, the carbonic acid escapes.

337. Q. What takes place in preparing the liquor plumbi subacetatis?

A. The acetic acid forms with the lead an acetate of lead, in solution.

338. Q. What is the theory of the process for making the acetate of lead?

A. *Sub-carbonate of Lead* and strong *acetic acid* are used. Whilst the lead forms, with the acetic acid, an *acetate of lead* in solution, (to be obtained in crystals by evaporation,) the carbonic acid is disengaged.

339. Q. Give the theory of the process for preparing carbonate of soda.

A. In the last pharmacopœia *sub-carbonate of soda* and *sub-carbonate of ammonia* were directed. The ammonia was evolved by heat, and its carbonic acid taken up by the sub-carbonate. In the present one, carbonic acid is merely transmitted through a solution of sub-carbonate of soda, to a saturation of its alkali.

340. Q. Of what use is the preparation of potass with lime?

A. It is employed as an escharotic.

341. Q. In making the compound decoction of mallows, what articles are employed?

A. Dried mallows, dried camomile flowers, and water.

342. Q. What are the virtues of the extractum taraxaci?

A. Diuretic and deobstruent; dose from ten grains to a drachm.

343. Q. What is the systematic name of the plant which affords us taraxaci radix?

A. Leontodon taraxacum.

344. Q. What are the virtues of the leaves of the whortlebury?

A. Tonic and diuretic; dose from ten grains to a drachm.

345. Q. What is the name of the plant which affords us the uvæ ursi *folia?*

A. Arbutus uva ursi.

346. Q. What are the virtues of elm bark?

A. Astringent and diuretic; dose from ten grains to a drachm.

347. Q. What is the officinal name of the tree from which the ulmi cortex is obtained?

A. Ulmus campestris.

348. Q. What is the specific gravity of proof spirit?

A. To that of water as .930 to 1.000.

349. Q. What is the specific gravity of rectified spirit?

A. To that of water as .835 to 1.000.

350. Q. In preparing the precipitated sulphuret of antimony what is effected?

A. *Sulphuret of antimony, liquor of potass, water* and *diluted sulphuric acid* are used. The water being decomposed into its constituents hydrogen and oxygen, the potass unites with the sulphur of the antimony, and with hydrogen from the water forms an hydro-sulphuret of potass. The antimony being oxidized by the oxygen of the water, is dissolved by this hydro-sulphuret of potass; on adding the sulphuric acid it unites with the potass, hydrogen escapes, and the oxide of antimony is precipitated, minutely blended with sulphur, and some sulphuretted hydrogen.

351. Q. What are the virtues of the precipitated sulphuret of antimony?

A. Alterative and diaphoretic: dose from one grain to five.

352. Q. In what cases are the preparations of digitalis useful?

A. In inflammatory diseases, phthisis, active hæmorrhages, and dropsies.

353. Q. Name the preparations of catechu.

A. The extract, infusion, and tincture.

354. Q. In what cases is catechu of service?

A. In diarrhœas and intestinal hæmorrhages, and *locally* in ulceration of the gums, relaxation of the uvula, aphthæ, &c.

355. Q. What are the medical virtues of saffron?

A. Diaphoretic, stimulant; dose from five grains to thirty.

356. Q. In what cases may it be exhibited with any success?

A. In hysteria, and other nervous cases.

357. Q. What officinal preparations does saffron enter?

A. The syrupus croci, confectio aromatica, pilulæ aloes cum myrrha, tinctura aloes composita, tinctura cinchonæ composita, tinctura rhei, and the tinctura rhei composita.

358. Q. What are emollients?

A. Substances which possess the power of relaxing the living and animal fibre without any mechanical action.

359. Q. What are the officinal preparations of chalk?

A. The mistura cretæ, hydrargyrum cum creta, and pulvis cretæ compositus.

360. Q. What are the properties of chalk?

A. Internally antacid, externally absorbent.

361. Q. In what diseases may the ferrum ammoniatum be administered with advantage?

A. In cases of hysteria, chlorosis, epilepsy, scrofula, &c. &c.

362. Q. What preparation of iron is used in the pilulæ ferri compositæ?

A. A sulphate of iron, which in preparing the pill becomes a carbonate of iron.

363. Q. In what cases is sulphate of iron of service?

A. In all diseases attended with universal debility, diabetes, amenorrhœa, &c. &c.

364. Q. What are the virtues of guaiacum?

A. Diaphoretic, stimulant; in large doses it possesses purgative properties; dose from five grains to a scruple, or as a purgative to two scruples.

365. Q. In what complaints is guaiacum generally employed?

A. In gout, cutaneous diseases, and chronic rheumatism.

366. Q. What are the uses of the liquor ammoniæ acetatis?

A. *Internally* in inflammatory and febrile diseases; *externally*, properly diluted, as a collyrium, or as an injection in the early stage of gonorrhœa, and as a lotion to inflamed surfaces, &c. &c.

367. Q. In what officinal preparations is sulphuric acid used?

A. The ferri sulphas, acidum sulphuricum dilutum, hydrargyri oxymurias, and zinci sulphas.

368. Q. What preparation of the pharmacopœia does the diluted sulphuric acid enter?

A. The infusum rosæ compositum.

369. Q. What are the virtues of the infusum rosæ?

A. Refrigerant and sub-astringent; dose from an ounce to half a pint?

370. Q. What are the virtues of the hellebori fœtidi folia?

A. Cathartic and anthelmintic; very seldom used.

371. Q. What are the virtues of humuli strobili?

A. Tonic, sedative; dose from five grains to half a drachm.

372. Q. Name the officinal preparations of hops?

A. The tinctura humuli, and the extractum humuli.

373. Q. What are the officinal preparations of the cascarillæ cortex?

A. The tinctura cascarillæ and infusum cascarillæ.

374. Q. Name the officinal preparations camphor is employed in?

A. The mistura camphoræ, spiritus camphoræ, tinctura camphoræ composita, linimentum camphoræ, linimentum camphoræ compositum, linimentum hydrargyri, and linimentum saponis.

375. Q. What officinal preparations do the cardamomi semina enter?

A. The extractum colocynthidis compositum, tinctura cardamomi composita, tinctura cinnamomi composita, tinctura gentianæ composita, tinctura rhei, tinctura sennæ, spiritus ætheris aromaticus, confectio aromatica and pulvis cinnamomi compositus.

376. Q. What articles enter the compound tincture of benzoin?

A. Benzoin, storax balsam, balsam of tolu, extract of spiked aloes, and rectified spirit.

377. Q. What substances are employed in preparing the tincture of catechu?

A. Extract of catechu, cinnamon bark, and proof spirit.

378. Q. What preparations does the cassiæ pulpa enter?

A. The confectio cassiæ and confectio sennæ.

379. Q. What articles are used in making the infusum rosæ compositum?

A. French rose petals, boiling water, diluted sulphuric acid, and double refined sugar.

380. Q. In what cases may the bistortæ radix be employed with advantage?

A. In diarrhœas and internal hæmorrhages.

381. Q. In preparing the sulphuret of potass what takes place?

A. *Washed sulphur* and *sub-carbonate* of *potass* are used. The sulphur combines with the potass, forming a sulphuret of potass, and the carbonic acid is driven off.

382. Q. What are the virtues of the precipitated sulphur?

A. Diaphoretic, stimulant, and laxative: dose from half a drachm to two drachms.

383. Q. What are carminatives?

A. Substances which lessen pain by dispelling flatulency in the primæ viæ.

384. Q. What is effected in making precipitated sulphur?

A. The sulphur attracts a portion of hydrogen from the water, and unites with the lime, forming an hydroguretted sulphuret of lime in solution; the muriatic acid then enters into combination with the lime, forming *muriate of lime* in solution, sulphuretted hydrogen gas escapes, and the sulphur is precipitated.

385. Q. Name the preparations of sulphur?

A. The potassæ sulphuretum, sulphur lotum, sulphur præcipitatum, unguentum sulphuris, unguentum sulphuris compositum, sulphur sublimatum, oleum sulphuratum.

386. Q. What is the proportion of mercury, in the pilulæ hydrargyri?

A. There is one grain of mercury in three grains of the pill.

387. Q. In thirty-six grains of the confectio opii how much opium is there?

A. One grain.

388. Q. How much opium do five grains of the pilulæ saponis cum opio contain?

A. One grain.

389. Q. What are the virtues of the pulvis cornu usti cum opio?

A. Anodyne: dose from one grain to ten.

390. Q. What quantity of opium do ten grains of the pulvis cornu usti cum opio contain?

A. One grain.

391. Q. What is the proportion of opium in the compound powder of chalk with opium?

A. There is one grain of opium in two scruples of the powder.

392. Q. What are the virtues of the pulvis cretæ compositus cum opio?

A. Anodyne and absorbent: dose from five grains to two scruples.

393. Q. How much mercury does six drachms of the liniment of mercury contain?

A. One drachm.

394. Q. What is storax?

A. A balsamic gum resin which exudes from the styrax officinale; a tree growing in Asia, South America, Ethiopia, &c., we receive it from Turkey.

395. Q. What substances are employed in preparing the mistura guaiaci?

A. Gum resin of guaiacum, refined sugar, mucilage of acacia gum, and cinnamon water.

396. Q. What enters the ammoniated tincture of bark?

A. Lance-leaved cinchona bark and aromatic spirit of ammonia.

397. Q. In preparing the mercurial ointment does the mercury undergo any change?

A. Yes, it becomes oxidized.

398. Q. In preparing the ointment of nitrate of mercury what changes and decompositions take place?

A. *Purified mercury*, *nitric acid*, prepared *lard*, and *olive oil* are used: the mercury is oxidized at the expense of part of the nitric acid, nitrous gas escapes, and the oxide of mercury unites with the remaining acid, forming a nitrate of mercury.

399. Q. In what proportion does opium enter the compound powder of kino?

A. A scruple of the powder contains one grain.

400. Q. In three grains of mercury with chalk how much mercury is there?

A. One grain.

401. Q. In one ounce of liquor of oxymuriate of mercury, how much oxymuriate is there?

A. Half a grain.

402. Q. What is the proportion of mercury in the strong mercurial ointment?

A. One drachm of mercury in two drachms of the ointment?

403. Q. What is the strength of the mild mercurial ointment?

A. Six drachms of the ointment contain one drachm of mercury.

404. Q. What are the virtues of the tinctura rhei composita?

A. Stomachic and cathartic: dose from a fluid drachm to two ounces.

405. Q. What do you employ in preparing the tincture of senna?

A. Senna-leaves, carraway-seeds, cardamom-seeds, raisins, and proof spirit.

406. Q. In preparing the aromatic spirit of æther, what articles are used?

A. Cinnamon-bark, cardamom-seeds, long pepper, ginger-root, and spirit of sulphuric æther.

407. Q. What compound of iron exists in the mistura ferri composita?

A. Sub-carbonate of iron.

408. Q. What is the medical virtue of the extract of catechu?

A. Astringent: dose from five grains to fifteen.

409. Q. Whence do we receive catechu?

A. We receive it from Bombay and Bengal, it is the produce of the acacia catechu.

410. Q. What changes are effected in the state of bodies by the power of caloric?

A. Decomposition, dissolution, crystallization, precipitation, and fermentation.

411. Q. What change takes place in preparing the nitrate of silver?

A. The silver decomposes part of the nitric acid and becomes oxidized; nitric oxide gas escapes, and the *oxide of silver* is dissolved as it forms by the remaining acid.

412. Q. What substances enter the compound tincture of aloes?

A. Extract of spiked aloes, saffron, and tincture of myrrh.

413. Q. What articles enter the composition of the tincture of cardamoms?

A. Cardamom-seeds, carraway-seeds, cochineal, cinnamon bark, raisins, and proof spirit.

414. Q. In what proportion does arsenic enter the liquor arsenicalis?

A. Two fluid drachms of the liquor contain one grain of oxide of arsenic.

415. Q. Give the decomposition effected in making the hydrargyri oxydum cinereum.

A. The lime unites with the muriatic acid of the sub-muriate, forming in solution *muriate of lime*, and the *grey oxide of mercury* is precipitated.

416. Q. What decompositions are effected in preparing sub-carbonate of magnesia?

A. *Sulphate of magnesia, sub-carbonate of potass*, and *water* are used: the potass forms with the sulphuric acid of the magnesia a soluble *sulphate of potass*, while its carbonic acid combines with the magnesia, forming an insoluble *sub-carbonate of magnesia*.

417. Q. What articles enter the compound extract of colocynth?

A. Pulp of colocynth, extract of spiked aloes, gum-resin of scammony, cardamom seeds, and proof spirit.

418. Q. What are the virtues of the compound extract of colocynth?

A. Cathartic and stimulant: dose from five grains to thirty.

419. Q. In what does the active principle of the meadow-saffron root consist?

A. A peculiar alkali which is also found in the white hellebore root, and has been named veratrine.

420. Q. In substance what dose of the meadow-saffron root may be exhibited?

A. From two grains to ten.

421. Q. What are the virtues of the hydrargyri oxydum rubrum?

A. Antisyphilitic, *externally* stimulant, escharotic: dose from one-eighth of a grain to a grain.

422. Q. What change takes place in forming the red sulphuret of mercury?

A. The mercury being oxidized, unites intimately with the sulphur by the assistance of heat.

423. Q. What are the virtues of the carbonate of potass?

A. Diuretic and antacid: dose from ten grains to half a drachm.

424. Q. What changes take place in preparing the carbonate of potass?

A. In the last pharmacopœia *sub-carbonate of potass*, and *sub-carbonate of ammonia* were directed. The ammonia being expelled by heat, its carbonic acid is taken up by the potass. In the present one, carbonic acid is directed to be passed through a solution of potass to a perfect saturation.

425. Q. What salt remains in the retort after the distillation of nitric acid?

A. A super-sulphate of potass.

426. Q. What are the virtues of the super-sulphate of potass?

A. Refrigerant and cathartic: dose from a scruple to two drachms.

427. Q. What is a proper dose of the sulphate of potass?

A. From half a drachm to half an ounce.

428. Q. How is the *super-sulphate of potass* converted into a *sulphate* by sub-carbonate of potass?

A. The potass of the sub-carbonate neutralizes the superabundant acid, and the carbonic acid escapes.

429. Q. What is tartarized soda?

A. A triple salt consisting of tartaric acid, soda, and potass.

430. Q. What chemical change is effected in making the tartarized soda?

A. *Sub-carbonate of soda; super-tartrate of potass* and *water* being used; the soda gives off its carbonic acid while it unites with the excess of tartaric acid, forming a tartrate of soda and potass.

431. Q. What salt remains in the retort after the sublimation of sub-carbonate of ammonia?

A. Muriate of lime.

432. Q. To procure lime, white-marble is directed to be subjected to a fierce heat for an hour: what is the object?

A. To deprive it of its *carbonic acid.*

433. Q. What are the virtues of the precipitated sulphuret of antimony?

A. Alterative and diaphoretic: dose from one grain to five.

434. Q. What is the systematic name of the plant which affords us the calami radix?

A. Acorus calamus.

435. Q. What are the virtues of tartarized antimony?

A. Emetic, diaphoretic, and expectorant.

436. Q. As an emetic how much may be exhibited?

A. From one grain to three.

437. Q. How much tartarized antimony would you give as a diaphoretic?

A. From one eighth of a grain to half a grain.

438. Q. In preparing tartarized antimony, what chemical changes and decompositions are effected?

A. *Glass of antimony, supertartrate of potass, sulphuric acid,* and boiling *water,* are used. Glass of antimony consists of silica, oxide of antimony, and a little sulphur: during the boiling, the excess of tartaric acid unites with the oxide of antimony, forming in solution a tartrate of antimony and potass. While the silica and sulphur remain unacted upon,—the solution being filtered and evaporated, crystals form in it.—It is therefore a double salt, or a compound of tartrate of potass, and tartrate of antimony.

439. Q. What is the systematic name of the plant which affords olibanum?

A. Juniperus lycia.

440. Q. What are the virtues of the tinctura ferri muriatis?

A. Tonic and emmenagogue: dose from five drops to twenty.

441. Q. In preparing the tinctura ferri muriatis, what takes place?

A. *Sub-carbonate of iron, muriatic acid*, and *rectified spirit*, are used; while the iron forms with the muriatic acid a *muriate of iron*, its carbonic acid escapes, the muriate is then dissolved by the spirit.

442. Q. In making the hydrargyri sulphuretum nigrum, what change does the mercury undergo?

A. It is slightly oxidized, and mechanically mixed with the sulphur.

443. Q. What is the medical virtue of the black sulphuret of mercury?

A. Alterative; dose from five grains to a scruple.

444. Q. What are the virtues of the zinci sulphas?

A. Emetic, tonic, and astringent.

445. Q. As an emetic, how much sulphate of zinc may be given?

A. From five grains to twenty.

446. Q. As a tonic and astringent, what would be your dose?

A. From half a grain to two or three grains.

447. Q. What articles enter the vinum aloës?

A. Extract of spiked aloes, canella bark, wine, and proof spirit.

448. Q. In preparing the vinum opii what do you employ?

A. Extract of opium, cinnamon bark, cloves, and wine.

449. Q. Name the wines of the pharmacopœia?

A. The vinum aloes, vinum ipecacuanhæ, vinum opii, vinum veratri, vinum antimonii tartarizati, vinum colchici, vinum ferri.

450. Q. What are the virtues of the liquor ferri alkalini?

A. Tonic and emmenagogue; dose from half a drachm to a drachm and half.

451. Q. What change does the mercury undergo in triturating it with chalk, to form the preparation of *mercury with chalk?*

A. The mercury becomes slightly oxidized, and is mechanically mixed with the carbonate of lime.

452. Q. What substances would you avoid in prescriptions with tartarized antimony?

A. Alkalies and their carbonates, lime water, muriate of lime, metals, and their oxides. Acetates of lead, earths, vegetable infusions, particularly the bitter and astringent ones, such as catechu, cinchona, rhubarb, &c.

453. Q. What are the qualities of emplastrum cumini?

A. Stimulant and discutient.

454. Q. What are the qualities of the unguentum elemi compositum?

A. Stimulant and digestive; is used to keep up the discharge of setons and ulcers.

455. Q. What are the qualities of the unguentum hydrargyri præcipitati albi?

A. Stimulant, detergent.

456. Q. What substances will decompose the preparations of digitalis?

A. Solutions of iron, and of the salts.

457. Q. What substances are incompatible with the preparations of lime?

A. All the acids, and acidulous salts, ammoniacal salts, metallic salts, borates, alkaline carbonates, astringent vegetable infusions.

458. Q. What substances will act upon potass?

A. The acids, acidulous salts, muriates of ammonia and lime, acetate of ammonia, lime water, sulphate of magnesia, alum, tartarized antimony, nitrate of silver, ammoniated copper and iron, sulphate of iron, tincture of muriated iron, submuriate of mercury, oxymuriate of mercury, sulphate of zinc, acetate, and subacetate of lead, &c.

459. Q. In preparing the submuriate of mercury, what decompositions take place?

A. *Mercury*, *sulphuric acid*, *muriate of soda*, and *muriate* of ammonia are used: part of the mercury being added to the sulphuric acid, is oxidized and dissolved by it, forming a *sulphate of mercury*, this is reduced to a *sulphate* by adding to it the remaining mercury. The muriate of soda being added, it is decomposed, a sulphate of soda is formed, and the chlorine (or muriatic acid) is sublimed in combination with the mercury. The muriate of ammonia is employed to dissolve any corrosive sublimate that may be present.

460. Q. What substances will decompose calomel?

A. The alkalies, and their carbonates, nitric acid,

sulphuretted hydrogen, lime water, iron, lead, copper, hydro-sulphurets, &c.

461. Q. What are the components of sublimed white arsenic, or arsenious acid?

A. Arsenic 70.37, oxygen 29.63.

462. Q. What are the virtues and dose of the sub-nitrate of bismuth?

A. It is considered an antispasmodic: dose from five grains to fifteen, is employed in dyspepsia, attended with painful contractions of the stomach.

463. Q. In what cases may hemlock be employed?

A. In scirrhus, chronic rheumatism, pertussis, scrophula, and syphilis.

464. Q. In what cases may calomel be given with advantage?

A. In syphilis, epilepsy, trismus, tetanus, cutaneous eruptions and dropsies; and as a purgative in many diseases not marked by much visceral inflammation and great irritability of habit.

465. Q. In what cases is the ceratum plumbi acetatis employed?

A. As a cooling application to burns and excoriations.

466. Q. What are the qualities of the emplastrum picis compositum?

A. Stimulant, rubefacient, employed in pulmonary complaints.

467. Q. What are the qualities of the linimentum æruginis?

A. Detergent and escharotic.

468. Q. What is the theory of the process for preparing tartaric acid?

A. *Super-tartrate of potass*, *water*, *chalk*, and *sulphuric acid* are used. The lime of the chalk forms, with the excess of tartaric acid, a *tartrate of lime*, and the carbonic acid of the chalk is expelled; on adding the sulphuric acid the tartrate of lime is decomposed, an insoluble sulphate of lime is formed, and the tartaric acid left in solution to be obtained in crystals by evaporation.

469. Q. Of the pilulæ cambogiæ compositæ, what dose would you exhibit?

A. From five grains to ten.

470. Q. What substances would you avoid in prescriptions with the decoctions of sarsaparilla?

A. Lime-water, acetate of lead, and some of the solutions of mercury.

471. Q. In preparing oxide of zinc, what takes place?

A. *Sulphate of zinc*, *solution of ammonia*, and *distilled water* are used. The ammonia decomposes the sulphate and forms with its sulphuric acid sulphate of ammonia in solution, and the oxide of zinc is precipitated.

472. Q. In preparing sulphate of zinc what is effected?

A. *Sulphuric acid*, *zinc*, and *water* are used: part of the water is decomposed, and the zinc oxidized, hydrogen gas escaping. The sulphuric acid forms, with the oxide of zinc in solution, a sulphate of zinc.

473. Q. Describe the theory of the process for preparing the spiritus ammoniæ.

A. Spirit, muriate of ammonia, and sub-carbonate of potass are used: a double decomposition is effected, or an exchange of acids takes place thus: the carbonic acid forms with the ammonia a carbonate of ammonia, which is distilled over and dissolved by the spirit, leaving a muriate of potass in the retort.

474. Q. What are the medical virtues and uses of the meadow saffron root?

A. Diuretic, narcotic, purgative; it is now principally employed in gout and rheumatism, by some in hydrothorax and humoral asthma: dose of the root from three grains to ten.

475. Q. What substances are incompatible with the preparations of ipecacuan?

A. The salts of lead, and mercury, and infusion of galls.

476. Q. In exhibiting sulphate of magnesia what substances would you avoid?

A. Alkalies, potass, soda and their sub-carbonates, lime water, and muriate of lime, acetates of lead, &c.

477. Q. What will decompose the tinctura opii?

A. Ammonia, potass, and soda, and their sub-carbonates will precipitate the morphia of the opium; most metallic salts and infusion of galls will likewise decompose it.

478. Q. What are the virtues of lime water?

A. As an antacid it is employed in dyspepsia at-

tended with acidity, and as an astringent in leucorrhœa, dysentery, and diarrhœa.

479. Q. What is the use of the infusum tabaci?

A. It is employed as an enema in incarcerated hernia, and in ileus.

480. Q. What substances must be avoided in exhibiting the compound decoction of aloës?

A. Acids, acidulous salts, earthy and metallic salts, and all substances which will effect any chemical change upon the sub-carbonate of potass it contains.

481. Q. What is the composition of precipitated sulphuret of antimony?

A. Sulphur, sulphuretted hydrogen, and oxide of antimony?

482. Q. What plant affords the rhamni baccæ?

A. The rhamnus catharticus.

483. Q. What are the virtues of the buckthorn berries?

A. Cathartic, dose from one drachm to two.

484. Q. What are the medical virtues of the rosemary tops?

A. Tonic, stimulant, emmenagogue: dose from ten grains to half a drachm.

485. Q. What are the constituents of muriate of soda?

A. Muriatic acid and soda, or, agreeable to Davy, chlorine and sodium.

486. Q. What are the virtues of ginger?

A. Stomachic and carminative: dose from five grains to half a drachm.

487. Q. What are the virtues of the acetum colchici?

A. Diuretic, expectorant: dose from half a drachm to two fluid drachms.

488. Q. In preparing the strong mercurial mercury what change takes place?

A. The mercury during the trituration absorbs oxygen from the atmosphere, and is thus converted into an oxide.

489. Q. In making the plaster of mercury, is the mercury oxidized?

A. Yes, with about a minimum of oxygen.

490. Q. What will decompose tincture of myrrh?

A. Water will precipitate the resin of myrrh.

491. Q. What is the composition of alkohol?

A. Carbon, 52.17; oxygen, 34.79; and hydrogen, 13.04.

492. What are the constituents of the nitric spirit of æther?

A. Oxygen, hydrogen, nitrogen, and carbon.

493. Q. What are the virtues of æther?

A. Stimulant, antispasmodic: dose from half a fluid drachm to two drachms; it is useful to scalds and burns, owing to the cold produced by its evaporation.

494. Q. What are the virtues of the spiritus ætheris nitrici?

A. Refrigerant, diuretic: dose from five drops to sixty.

495. Q. What are the uses of the tincture of cantharides?

A. It is a diuretic and stimulant: dose from five drops to one fluid drachm, given in some demulcent liquid. It is serviceable in fluor albus, gleets, incontinence of urine, &c.; and, externally, as a stimulating embrocation, or rubefacient with camphor, liniment, &c.

496. Q. What are the medical properties and uses of petroleum?

A. Stimulating, antispasmodic, and sudorific; has been employed in chronic coughs and asthmas, and externally, as a stimulant in rheumatism, diseases of the hip joint, to paralytic limbs, chilblains, &c.

497. Q. What property does the krameriæ radix possess?

A. It is an astringent: dose from one scruple to two drachms.

498. Q. Which are the most active, fresh or dried herbs?

A. The dried; owing to the moisture of the fresh herbs.

499. Q. Enumerate the botanical classes.

A. 1. monandria; 2. diandria; 3. triandria; 4. tetrandria; 5. pentandria; 6. hexandria; 7. heptandria; 8. octandria; 9. enneandria; 10. decandria; 11. dodecandria; 12. icosandria; 13. polyandria; 14. didynamia; 15. tetradynamia; 16. monadelphia; 17. diadelphia; 18. polyadelphia; 19. syngenesia; 20. gynandria; 21. monœcia; 22. dioecia; 23. polygamia; 24. cryptogamia.

500. Q. What preparation of soda exists in the pilulæ ferri compositæ.

A. A sulphate of soda.

501. Q. What are the virtues of the balsam of storax?

A. Stimulant, expectorant: dose from ten grains to a scruple twice or three times a day.

502. Q. In giving a draught with carbonate of soda and lemon-juice, what salt is formed?

A. A citrate of soda.

503. Q. In exhibiting a saline draught, why would you prefer a carbonate to a sub-carbonate?

A. Because it contains the most carbonic acid.

504. Q. How is ammonia obtained?

A. From the sal ammoniac of commerce, or by sublimation from hartshorn or bones; it exists in soot, and is formed by animal decomposition.

505. Q. What substances afford gallic acid?

A. Nut-galls, and most other astringent substances.

506. Q. Before a metal can chemically combine with an acid to form a salt, what change does it undergo?

A. It becomes oxidized either by the acid used, by decomposing the water, or by attracting oxygen from the atmosphere with the assistance of heat.

507. Q. What is plumbago?

A. It is a carburet of lead.

508. Q. What substance will dissolve resin?

A. Alkohol.

509. Q. What menstruum would you employ to dissolve a gum resin?

A. A mixture of spirit and water.

510. Q. In what proportion will water absorb ether?

A. Ten parts of water will dissolve but one of ether.

511. Q. What is charcoal?

A. An oxide of carbon.

512. Q. How are muriates known?

A. When decomposed by sulphuric acid they afford muriatic acid gas.

513. Q. How are carbonates decomposed?

A. By all the acids.

514. Q. What metals are usually employed to decompose water?

A. Zinc and iron.

515. Q. What is the composition of medicinal spirits?

A. Alcohol, water, and volatile oil.

516. Q. What substances will deprive rectified spirit of its water?

A. Muriate of lime and subcarbonate of potass.

PRACTICE OF PHYSIC.

1. Q. What do you understand by nosology?

A. The doctrine of the names of diseases.

2. Q. How many classes of diseases are there?

A. Four: 1. Pyrexiæ, or febrile diseases; 2. Neuroses, or nervous diseases; 3. Cachexiæ, or cachetic diseases; 4. Locales, or local diseases.

3. Q. What are the orders of the class Pyrexiæ?

A. 1. Febres, fevers; 2. Exanthemata, eruptive fevers; 3. Phlegmasiæ, inflammations; 4. Hæmorrhagiæ, hæmorrhages; 5. Profluvia, fluxes.

4. Q. What are the genera of the order febres?

A. The order febres is divided into continued and intermittent fevers: the *continued*, are, 1. Synocha, inflammatory fever; 2. Typhus, nervous fever; 3. Synochus, mixed fever:—the *intermittent* are, 1. Quotidiana, every-day ague; 2. Tertiana, every third day ague; and 3. Quartana, fourth day ague.

5. Q. What is the character of the class, Pyrexiæ?

A. Increased heat, frequency of pulse with shivering, accompanied by a disturbance in many of the functions, and diminution of strength.

6. Q. What do you understand by an intermittent fever?

A. A species of fever which consists of a succession of paroxysms, between each of which there is a perfect intermission from febrile symptoms.

7. Q. Name the genera of the order exanthemata?

A. 1. Variola, small pox; 2. Varicella, chicken-pox; 3. Rubeola, measles; 4. Scarlatina, scarlet fever; 5. Pestis, plague; 6. Erysipelas, St. Anthony's fire; 7. Miliaria, miliary fever; 8. Urticaria, nettle rash; 9. Pemphigus, vesicular fever; 10. Aphtha, aphthous fever.

8. Q. Name the genera of the order phlegmasiæ?

A. There are twenty: namely, Phrenitis, or inflammation of the brain; Ophthalmitis, of the eye; Otitis, of the ear; Glossitis, of the tongue; Cynanche, of the throat; Pleuritis, of the pleura; Pneumonitis, of the lungs; Carditis, of the heart; Diaphragmatis, of the diaphragm; Hepatitis, of the liver; Gastritis, of the stomach; Enteritis, of the intestines; Splenitis, of the spleen; Nephritis, of the kidney; Cystitis, of the bladder; Hysteritis, of the uterus; Prostitis, of the prostate gland; Peritonitis, of the peritoneum; Podagra, gout; and Rheumatismus, rheumatism.

9. Name the genera of the order hemorrhagiæ?

A. Epistaxis, flow of blood from the nose; Hæmoptysis, spitting of blood; Hæmatemesis, vomiting of blood; Hæmorrhois, piles; Menorrhagia, flooding; Hæmaturia, voiding blood with the urine.

10. Q. What are the genera of the order profluvia?

A. Catarrhus, catarrh; and dysenteria, dysentery.

11. Q. How many species of cynanche are there?

A. Six: Cynanche tonsillaris, or inflammatory sore throat; Cynanche maligna, or putrid sore throat; Cynanche trachealis, or croup; Cynanche pharyngæa, or inflammation of the pharynx; Cynanche parotidæa,

the mumps, or inflammation of the parotid gland, and Cynanche laryngæa or inflammation of the larynx.

12. Q. What are the usual terminations of cynanche tonsillaris?

A. In resolution and suppuration, and very rarely, in gangrene and scirrhus.

13. Q. What are the causes of inflammatory sore throats?

A. Exposure to cold and damps, particularly on leaving a heated room, suppression of natural evacuations, great exertion of the voice, &c.

14. Q. Give the general treatment of inflammatory sore throats.

A. The early exhibition of emetics is extremely useful; saline purges and diaphoretics; topical, and in some cases general blood-letting; the application of blisters to the neck and throat; stimulant or sedative gargles; the inhalation of the steams of warm water, &c.; keeping the patient on an antiphlogistic regimen.

15. Q. Is this the practice you would pursue in cynanche maligna?

A. No; I should exhibit tonics, with diaphoretics; make use of tonic and astringent gargles; and allow my patient a more generous diet.

16. Q. When cynanche tonsillaris is likely to end in resolution what are the symptoms?

A. The inflammation being of a red livid colour, attended with little fever, a mild universal diaphoresis, free respiration, and deglutition, and about the sixth day a moderate diarrhœa or copious ptyalism supervening.

17. Q. How is cynanche tonsillaris distinguished from cynanche maligna?

A. By the fever attending it being synochal and not typhoid, by the strength of the pulse, and the absence of ulceration.

18. Q. What do you understand by prognosis?

A. The art of fore-judging the termination of diseases by the symptoms.

19. Q. What are the causes of typhus fevers?

A. Contagion, exposure to a cold damp atmosphere, the passions of the mind, impaired constitution, irregular living, the frequent use of spirituous liquors, unwholesome climate, general intemperance, &c.

20. Q. What are the symptoms of typhus mitior?

A. Loss of appetite, general debility; pains in the head and other parts of the body; lowness of spirits; confused imagination; sickness; pale urine; a white moist tongue, becoming dry, brown and tremulous; weak quick pulse, at first the heat being little increased, but ultimately becoming so, the urine changing to a high colour; partial cold clammy sweats; delirium; involuntary evacuations; and in a more advanced stage cold extremities and convulsions.

21. Q. How many species of gastritis are there?

A. Two; the phlegmonous, which is produced by specific irritation; and the erysipelatous, which arises in the fatal terminations of other diseases unattended by general marks of inflammation or burning pain in the stomach.

22. Q. What are the symptoms of gastritis?

A. An acute pain and burning sensation in the region of the stomach; great debility, restlessness, and anxiety; quick, hard, contracted pulse; vomiting, which with the pain is increased on taking any thing into the stomach; frequent hiccough, &c.

23. Q. What are the causes of phlegmonous gastritis?

A. It may be produced by any acrid or irritating substances, such as a frequent use of ardent liquors, drinking cold water when the body is much above its natural heat, or by various kinds of poisons, such as arsenic, mineral acids and alkalies, or by repelled exanthemata and gout, or by any external violence.

24. Q. How does gastritis terminate?

A. In resolution, suppuration, or gangrene.

25. Q. When gastritis terminates in gangrene, what are the symptoms?

A. A sudden and great prostration of strength and cessation of the pain, the pulse becoming more rapid and intermitting; coldness of the extremities, delirium, hiccough, &c.

26. Q. What are the favourable symptoms in gastritis?

A. About the fourth day the pulse becoming soft and full, the urine depositing a sediment, the pain gradually ceasing, and a gentle diarrhœa supervening.

27. Q. What treatment would you adopt in gastritis, or inflammation of the stomach?

A. Copious and frequent blood-letting from the arm, applying several leeches over the stomach, using blisters, fomentations, warm bath, emollient and laxative

clysters; observing the strictest antiphlogistic regimen.

28. Q. What are the causes of enteritis?

A. The same as those of gastritis, with strangulation of any part of the intestinal canal: atmospherical vicissitude, &c. &c.

29. Q. What are the symptoms which distinguish gastritis from enteritis?

A. The seat of the pain and burning sensation in the stomach, the immediate rejection of food, great depression of strength, &c.

30. Q. How many species of enteritis are there?

A. Two; the phlegmonous and erysipelatous.

31. Q. What are the symptoms of enteritis?

A. Pyrexia, acute pain round the umbilicus, which is increased by pressure, attended with heat, thirst, obstinate costiveness, anxiety, nausea, and sometimes vomiting, quick and very contracted pulse, &c.

32. Q. What is the character of the order marcores?

A. Emaciation of the whole body.

33. Q. What do you understand by opisthotonos?

A. A spasm of the muscles, accompanying tetanus, drawing the body backwards.

34. Q. How does enteritis terminate?

A. In resolution, ulceration, or gangrene.

35. Q. How do you know when enteritis has terminated in ulceration?

A. By a remission of the febrile symptoms, occasional rigors and pains, and pus being blended with the evacuations from the bowels.

36. Q. What treatment would you pursue in enteritis?

A. Bleed freely from the arm, agreeable to the age and constitution of the patient; apply leeches to the abdomen, use warm fomentations, emollient and laxative clysters, and the warm bath; following this treatment by exhibiting cathartics, such as the sub-muriate of mercury, or a draught composed of infusion of senna and sulphate of magnesia, directing the strictest antiphlogistic regimen to be observed.

37. Q. What is a leucorrhœa?

A. A discharge of thin, white or yellow matter from the uterus and vagina, frequently attended with pains in the back, smarting in making water, anorexia and atrophy; sometimes the discharge is fœtid, and produces excoriations.

38. Q. How may leucorrhœa be distinguished from gonorrhœa?

A. Leucorrhœa is unaccompanied with inflammation of the pudenda, and the discharge is extremely irregular, sometimes coming away in large lumps and in great quantities; whereas in gonorrhœa, there is much inflammation and general irritation, ardor urinæ, enlargement of the labia, or of the glands in the groin, and the discharge (or running) is constant but in small quantity.

39. Q. What are the symptoms when enteritis terminates in resolution?

A. A gradual abatement of the pain, a general diaphoresis, evacuation of natural fæces, the pulse becoming firm, full, and regular, a free discharge of thick urine, &c.

40. Q. What are the symptoms of cystitis?

A. Tension, and acute pain over the pubes; tenes-

mus and pyrexia, a frequent desire to make water, with difficulty in voiding it, sometimes a suppression of it, increase of pain on pressure, &c.

41. Q. How many species of cystitis are there?

A. Two; acute and chronic.

42. Q. How does the treatment of acute and chronic cystitis differ?

A. The acute should be treated the same as other phlegmasiæ, by blood-letting; the application of leeches; the use of the warm bath, and fomentations; the exhibition of oleaginous purges and clysters; opium, diaphoretics, &c.; whereas in the chronic species stimulants are proper, such as the balsam of copaiba, and preparations of turpentine; injecting the bladder with emollient decoctions.

43. Q. What distinguishes acute from chronic inflammation?

A. Its activity, and its recent appearance.

44. Q. In inflammatory cases, what regimen and diet would you recommend your patient?

A. Strictly antiphlogistic: such as light plain puddings, vegetables, toast and water, acidulous drinks, &c. &c.

45. Q. When general inflammation is going on, of what description is the pulse?

A. Strong, hard, and rapid.

46. Q. Is there any thing peculiar in the pulse in enteritis?

A. Yes; it is so much contracted as to be scarcely perceptible.

47. Q. By what can you determine the bile to be in a vitiated state?

A. An unnatural appearance of the evacuations, the irritable state of the intestines, stomach, &c.

48. Q. What is understood by dysentery?

A. A disease in which there is inflammation of the nervous membrane of the intestines, accompanied with frequent sanguineous and mucal evacuations, a tenesmus and fever.

49. Q. What are the orders of the class neuroses?

A. Comata, adynamiæ, spasmi, and vesaniæ.

50. Q. What is the general treatment of acute inflammation?

A. General and topical blood-letting agreeable to symptoms; exhibiting saline purges and diaphoretics; employing blisters, fomentations, warm bath, cold affusion, and strictly adopting an antiphlogistic system.

51. Q. What is the appearance of the urine when active inflammation is going on?

A. It is of a deep colour, and precipitates a red sediment.

52. Q. What are the symptoms of icterus or jaundice?

A. The skin and tunica conjunctiva of the eye being of a yellow colour, a bitter taste in the mouth, yellow urine, pain in the right hypochondrium, fæces like clay.

53. Q. How is mania distinguished from phrenitis?

A. By the absence of fever, &c.

54. Q. What are the symptoms of hydrocephalus?

A. Pyrexia, increased size of the head, convulsions, languor, coma, drowsiness, dilatation of the pupils, redness of the eyes, costiveness, &c.

55. Q. What is understood by anasarca?

A. A collection of fluid in the cellular membrane of part or whole of the body.

56. Q. What are the symptoms of nephritis?

A. Pyrexia, an acute pain on the side affected, extending along the course of the ureter; high coloured urine, retraction of the testicle, numbness of the leg, dysuria, micturition, vomiting, &c.

57. Q. What treatment is proper for nephritis?

A. General and local blood-letting; the exhibition of oleaginous cathartics and diaphoretics; the use of the warm bath, fomentations, and emollient clysters; avoiding *blisters*, they being apt to produce strangury.

58. Q. How does nephritis terminate?

A. In resolution, suppuration, or gangrene.

59. Q. How many kinds of poisons are there?

A. Four, viz. animal, aerial, vegetable, and mineral.

60. Q. What do you understand by amenorrhœa?

A. An interruption of the menstrual discharge.

61. Q. What is the character assigned to the order apocenoses?

A. The fourth order of the class locales, is marked by an unusual flux of blood, or other humours, unaccompanied with pyrexia or increased impetus of the fluids.

62. Q. How may mineral poisons be distinguished from vegetable poisons?

A. By their action; mineral poisons stimulate, inflame, and corrode, and vegetable poisons usually stupify, leaving no marks of inflammation.

63. Q. Name the genera of the order apocenoses?

A. Profusio, a passive loss of blood; epiphora, involuntary flow of tears; epidrosis, an excessive perspiration; enuresis, an involuntary flow of urine; ptyalismus, increased saliva; gonorrhœa, a preternatural flux of blood from the urethra.

64. Q. How is an inflammation of the kidney distinguished from lumbago?

A. By the seat of pain, discovered upon pressure; by the dysuria and micturition; the vomiting; the pain extending along the ureter and nerve, and it not being increased by motion or an erect posture.

65. Q. What are the symptoms of phrenitis?

A. Vehement pyrexia; acute pain in the head; violent delirium; redness of the face and eyes; intolerance of light and sound; watchfulness; hard, small, quick pulse; wild expression of the eyes and countenance; a succession of burning heat and profuse perspiration; dry rough tongue, of a yellow or black colour.

66. Q. How would you treat a case of phrenitis?

A. Use the lancet freely, producing a sudden and copious evacuation of blood; apply leeches to the temples, and keep the head (previously shaved) covered with linen cloths, wetted with cold lotions, such as vinegar and water, iced water, or diluted æther; blisters to the head, neck and legs; warm bath, and mustard cataplasms to the feet; exhibit an active cathartic of calomel and extract of colocynth at its commencement, and continue to act upon the bowels with saline purgatives; thus keeping up a constant counter-irritation.

67. Q. Name the principal mineral poisons?

A. The acids, alkalies, some of the preparations of mercury, arsenic, lead, nitrate of silver, antimony, and zinc.

68. Q. When arsenic has been taken by mistake, what are the immediate effects?

A. It produces a burning and pricking sensation in the stomach, excruciating pains in the bowels, unquenchable thirst, excessive vomiting, dry and rough tongue and throat, great anxiety and uneasiness, inflammation of the stomach and intestines, followed by distension of the abdomen, coldness of the extremities, hiccups, gangrene, fœtid stools, vomiting, and death.

69. Q. What do you understand by a tenesmus?

A. A frequent inclination to go to stool without any evacuation of fæces.

70. Q. How is cynanche maligna known from cynanche tonsillaris?

A. By the typhoid symptoms, and ulceration attending it.

71. Q. How is epilepsy distinguished from apoplexy?

A. By the increase of the voluntary motions in epilepsy, and their suspension in apoplexy, and by the stertorous breathing in the latter.

72. Q. How is dysentery known from diarrhœa?

A. By the presence of fever and inflammatory symptoms; the evacuations being sanguineous, mucal, or putrid; but in diarrhœa the motions are feculent, or blended with alimentary matter.

73. Q. What are the symptoms of pneumonia, or inflammation of the lungs?

A. An obtuse pain in the chest or side, attended with great difficulty of breathing, troublesome cough, hot dry skin; at first a full, strong, quick pulse; as the disease advances becoming weaker, and sometimes intermitting; excessive thirst, flushed countenance, incapacity of lying upon the affected side without great increase of pain.

74. Q. How is inflammation of the lungs distinguished from inflammation of the pleura?

A. By the pain in pneumonia being obtuse, and situated more under the sternum; the greater difficulty of breathing, and sense of oppression; and the pulse not being so much contracted.

75. Q. How may inflammation of the lungs be known from inflammation of the liver?

A. Pressure in pneumonia does not increase the pain: in inflammation of the liver it does; in pneumonia the patient cannot lie on the diseased side: in hepatitis the pain is considerably increased by lying on the opposite one.

76. Q. How is enteritis known from colic?

A. By the pain in enteritis being increased on pressure, and in colic relieved; by the peculiar twisting pain about the navel in colic, as also the absence of fever in the early stages of the disease.

77. Q. What are the orders of the class cachexiæ?

A. Marcores, or emaciations; intumescentiæ, or swellings; and impetigines, or cutaneous diseases.

78. Q. What is the character which marks the class cachexiæ?

A. A depraved state of the whole, or greater part of the body, without any primary febrile or nervous affection.

79. Q. To counteract the effects of arsenic, what course would you pursue?

A. In the first place, endeavour to produce an immediate evacuation of the contents of the stomach and intestines, by exhibiting an active emetic, directing the patient to drink freely of diluent mucilaginous liquids; exhibit a solution of sub-carbonate of potass, and other alkaline salts, or chalk, or lime-water; employing emollient and laxative clysters, with a view to lessen the inflammatory action (if the state of the circulation indicated it) employ the lancet, and apply blisters to the epigastric region.

80. Q. What are the genera of the order marcores?

A. Phthisis, or pulmonary consumption; atrophy, or gradual wasting of the body, usually unattended by any evident fever, but accompanied with depression of spirits, impaired digestion, loss of appetite, and universal languor.

81. Q. How is hæmoptysis, or spitting of blood, distinguished from hæmatemesis?

A. By the blood in *hæmoptysis* being *coughed* up, of a florid red colour; whereas in *hæmatemesis* the blood is *vomited* up, of a darker colour, blended with the contents of the stomach, and discharged in considerable quantities.

82. Q. What antidotes would you employ in cases of poison by oxymuriate of mercury?

A. Whites of eggs dissolved in water, milk, sugar and

water, gum-water, and decoction of linseed, given in considerable quantities.

83. Q. What characterizes the class locales?

A. An affection of a *part* of the body only.

84. Q. What do you understand by tympanites?

A. A distention of the intestines, or cavity of the abdomen by wind, is called tympany, or drum-belly.

85. Q. What is the difference between dysuria and ischuria?

A. In dysuria, or strangury, there is a frequent desire to make water, with great difficulty in voiding it, but in ischuria there is a total suppression of the urine.

86. Q. How would you treat a case of hæmatemesis?

A. If there appeared an inflammatory diathesis, by bleeding in the first instance; exhibiting refrigerants, with small doses of opium, such as the infusion of roses with sulphate of magnesia, &c., following a strict antiphlogistic regimen; if these means did not allay the hæmorrhage, by making use of astringents and tonics, applying a blister to the chest, &c.

87. Q. What are the general symptoms of internal gangrene?

A. A sudden cessation of pain; a very small and intermitting pulse; a cadaverous appearance of the countenance; great and sudden prostration of strength; cold extremities; vomiting, hiccup, &c.

88. Q. What are the causes of menorrhagia?

A. Plethora, violent exercise, passions of the mind, and other accidental circumstances, determining the

blood to the uterine vessels; excess in venery; the application of cold and wet to the feet; debility of the uterus, arising from frequent child-bearing, protracted labours, or miscarriages; sedentary and inactive life; poor living; warm atmospheres; organic diseases, as polypus, schirrus, ulceration, &c.

89. Q. What are the characteristic marks of cholera morbus?

A. Violent and frequent discharges of bilious matter, upwards and downwards, attended with acute griping pain.

90. Q. In cases of poison by verdigris, what would you exhibit?

A. In the first place, emetics, and follow them by large potions of sugar and water, or any alkalized water.

91. Q. What is the character of the order comata?

A. Diminution of voluntary motion, with sleep, or a suspension of sense.

92. Q. How many species of ophthalmia are there?

A. Two: the idiopathic and symptomatic, each being acute or chronic.

93. Q. What are the usual causes of ophthalmia?

A. The idiopathic ophthalmia may arise from any external injury, such as wounds on the eyes, blows, contusions, exposure to colds and damps, abuse of strong liquors, suppression of natural evacuations, exposure to strong light, long fixed attention to minute objects, and the symptomatic arises in measles, scrofula, scurvy, syphilis, small-pox, and other inflammatory diseases.

94. Q. How may cholera morbus be distinguished from dysentery or diarrhœa?

A. By the evacuations being pure bile, unmixed with blood or mucus.

95. Q. What are the usual symptoms in cholera morbus?

A. Soreness, pain, nausea, and flatulency in the stomach, acute griping pains in the bowels, quickly followed by violent and frequent vomiting and purging of bilious matter; hurried respiration, thirst, heat; weak, frequent fluttering pulse; in urgent cases these symptoms are succeeded by cold clammy perspirations, great depression of strength, hurried respiration, considerable anxiety, hiccups, cold extremities, sinking of the pulse, and death sometimes speedily ensues.

96. Q. Name the species of variola.

A. Variola discreta, or the distinct species; variola confluens or confluent small-pox.

97. Q. What purges would you exhibit in nephritis?

A. Oleaginous; assisting their operation with emollient clysters.

98. Q. What are the symptoms of hepatitis, or inflammation of the liver?

A. Pyrexia; tension and pain in the right hypochondrium, increased by pressure and lying on the opposite side; pain in the clavicle and top of the right shoulder; dry cough; vomiting; difficult respiration; shooting pains in the chest; symptoms of jaundice; high coloured urine; obstinate costiveness, or diar-

rhœa; hiccup, and sometimes other symptoms of gastritis.

99. Q. What are the characteristics of the order vesaniæ?

A. The fourth order of the class neurosis is marked by impaired judgment, without pyrexia or coma.

100. Q. What treatment would you pursue for an hæmoptoe?

A. Enjoin a strict antiphlogistic regimen, keeping the patient in a cool atmosphere, avoid the least exertion of any kind, open the bowels by cooling purgatives, such as the sulphate of magnesia, with infusion of roses; administer, as the symptoms indicate, cold acidulated draughts, super-acetate of lead, with various other astringents and refrigerants, and the preparations of digitalis, employ cold immersion, &c., and in cases where the blood is of a florid red colour, the patient is young and plethoric, the pulse being hard and jerking, take blood from the arm.

101. Q. How many species of hepatitis are there?

A. Two; the acute and chronic.

102. Q. How is the chronic species of hepatitis distinguished from the acute?

A. By the very gradual appearance of the symptoms, the enlargement and hardness of the liver, the pain being obtuse, &c.

103. Q. What are the symptoms of epilepsy?

A. It is frequently preceded by a pain in the head, giddiness, noise in the ears, dimness of sight, palpitation of the heart, and flatulency in the stomach. When the fit comes on, the patient falls down sud-

denly, and loses all sense of feeling; the eyes are distorted or inverted, so that the whites of them only are seen; the muscles of the whole body are affected with convulsions, particularly those of the face, which are frightfully distorted; these having gradually abated, the patient continues in an apparent state of repose. On recovering himself, he feels very much exhausted, and is ignorant of what has passed during the fit.

104. Q. Where is the fluid situated in hydrothorax?

A. In the cavity of the pleura, or in the pericardium; sometimes the water is effused in the cellular texture of the lungs, or in small cysts of a membranous structure, which are called hydatids, attached to the internal surface of the pleura, or appearing to float in the cavity.

105. Q. What are the symptoms of chlorosis?

A. Retention of the menses beyond the time at which they usually appear, accompanied with palpitations at the heart, pains in the loins, back, and hips, costiveness, flatulency, a train of dyspeptic symptoms; preternatural appetite for chalk and other absorbents, pale, yellow, or greenish colour of the face, livid appearance of the lips, fatigue on the least exertion, heaviness, œdematous swellings of the feet, symptoms of hysteria, &c.

106. Q. In pneumonia what treatment would you pursue?

A. Bleed freely at the commencement, repeating it according to symptoms; apply leeches to the chest, following them by a large blister; keeping up a con-

stant counter-irritation by some stimulating ointment, or a renewal of the blister; administer nauseating doses of antimony, and other diaphoretics, with a view to excite the skin and promote expectoration, keeping the bowels gently moved with mild aperients; and in some cases, where much constitutional debility existed, rendering bleeding dangerous, with laborious respiration, frequent coughs, hard quick pulse, dry hot skin, &c., introduce digitalis, in doses agreeable to the age and state of the patient.

107. Q. Why would you give mild aperients only in pneumonia?

A. Because strong and drastic purgatives have a tendency to diminish the process of expectoration.

108. Q. How is gout to be distinguished from rheumatism?

A. By the dyspeptic symptoms preceding a fit of the gout; its attacking the smaller joints, and remaining more stationary; or the parts affected being more swollen and red than in rheumatism; the pre-disposition to the disease, &c.

109. Q. How would you distinguish typhus mitior from typhus gravior?

A. By the gradual attack and mildness of the symptoms; the *absence* of the symptoms of putrescency, and bilious vomiting, observed in typhus gravior; and by its being accompanied with less heat, thirst, and frequency of pulse.

110. Q. Name the genera of the order adynamiæ.

A. Syncope or fainting, vertigo or giddiness, dyspep-

sia or indigestion, hypochondriasis, hypochondriac affection, chlorosis, retention of the menses (or green sickness).

111. Q. What is the cause of measles?

A. Specific contagion.

112. Q. How many species of measles are there?

A. Willan divides measles into three species: rubeola vulgaris, rubeola sine catarrho, and rubeola nigra; it may be more proper to consider it as *inflammatory* or *putrid*.

113. Q. What are the symptoms of measles?

A. An inflammatory infectious fever, attended with sneezing, cough, and defluxion of thin humours from the eyes and nose, and a determination of acrid matter to the skin, exciting red spots over every part of the body; disappearing, in ordinary cases, after a few days, in a mealy disquammation of the cuticle.

114. Q. What disease resembles measles?

A. Scarlatina.

115. Q. How may scarlet fever be known from measles?

A. The redness of scarlet fever is more diffused, and is not elevated into distinct spots or pimples, as in measles; nor is it attended with cough, sneezing, epiphora, redness of the eyes, and other symptoms of measles.

116. Q. What are the symptoms of hysteritis?

Pyrexia, heat, tension, swelling, and acute pain at the lower part of the abdomen, which is considerably increased on pressure; nausea and vomiting; full, hard, and frequent pulse; vomiting, &c.

117. Q. What are the indications of cure in enteritis?

A. To allay the inflammatory action, and to keep the bowels open.

118. Q. How is cynanche tonsillaris known from cynanche maligna?

A. By the strength of the pulse, the absence of ulceration in the throat, the greater difficulty of deglutition, and the attending fever being synochal and not typhoid.

119. Q. How is varicella distinguished from variola?

A. By its being preceded by little or no fever; by the early appearance of the vesicles, and their being filled with serum about the second or third day; the pustules being formed about the fifth day, and beginning to fall off in scales, at which period the eruptions in variola are scarcely completed.

120. Q. What are the characteristic symptoms of diabetes?

A. Great thirst, voracious appetite, dry harsh skin, costiveness, disinclination to motion, a frequent discharge of urine, containing a large proportion of saccharine and other matter, voided in quantities exceeding that of the aliment or fluid taken; general emaciation, &c.

121. Q. What is the cause of varicella?

A. A specific contagion.

122. Q. What is the character of the class neuroses?

A. Preternatural affection of sense and motion,

without idiopathic or primary pyrexia, and without local disease.

123. Q. What is the character of the order adynamiæ?

A. Diminution of the involuntary motions, whether vital or natural.

124. Q. In the case of chlorosis what are the chief indications?

A. First: to improve the tone of the system, and secondly, to increase the action of the uterine vessels.

125. Q. How are these indications to be effected?

A. The first by clearing the stomach with a gentle emetic, allowing a generous diet with a moderate quantity of wine, exhibiting tonics, and chalybeates, such as the preparations of cinchona bark, and of gentian, compound mixture of iron, the use of chalybeate waters, regular exercise of walking, or riding on horseback, change of air and scenes, inhaling dephlogisticated air or oxygen gas; and the second indication of cure, by drastic cathartics, frequent frictions and pediluvium exercises of dancing, jumping, and walking, applying heat to the organs of generation, passing electric shocks through the pubic, lumbar, and hypogastric regions compression of the iliac arteries, &c.

ANTIDOTES

IN

CASES OF POISON.

Acidum muriaticum ——— nitricum ——— sulphuricum	Soap and water, magnesia, preparations of soda and potass.
Aconitum napellus	Sugar and water, acidulated drinks, and cordials.
Ærugo	Sugar and water in great quantities.
Alkalies	Lemon juice, vinegar, and other vegetable acids.
Antimonium tart.	Decoctions of galls, cinchona bark, oak bark, oily and mucilaginous fluids.
Argenti nitras	Salt and water, mucilaginous fluids, broths.
Arsenicum Alb. Sublim.	Emetics, lime water, soap and water, chalk and water, sugar and water, mucilaginous drinks, solutions of potass, &c.
Atropa belladonna	Sulphate of zinc as an emetic, castor oil, vinegar, and other acids.

Bismuthum	Emetics, lime water, soap and water, chalk and water, sugar and water, &c.
Cambogia	Emetics, opium, mucilages, anodyne oleaginous clysters.
Camphora	Wine, with repeated small doses of opium.
Cantharis vesicatoria	Sugar and water, oil, milk, mucilages.
Colchici radix	Emetics, warm sugar and water, opium with cordials.
Colocynth	Emetics, opium with mucilaginous drinks, emollient anodyne clysters, &c.
Conium maculatum	Sulphate of zinc as emetic, castor oil, acids.
Cuprum ammoniatum	Sugar and water, sugar and coffee.
Cupri sulphas	Mucilaginous drinks, whites of eggs, castor oil, &c.
Digitalis purpurea.	Emetic of sulphate of zinc; aromatics, cordials, opium.
Elaterium momordica	Cordials with opium, emollient anodyne clysters, demulcents.
Euphorbium	Emetics, opium with mucilaginous drinks, emollient anodyne clysters.
Ferri sulphas	Magnesia, warm water, any alkali.

Hellebori fœtidi folia ——— nigri radix	Oleaginous, and mucilaginous drinks, anodyne emollient clysters.
Hydrargyri oxymurias.	Whites of eggs, beaten up with water, soap and water, &c*.
Hyoscyamus	Sulphate of zinc as emetic, castor oil, and acidulated liquids, bleeding, &c.
Mezerei cortex et baccæ	Oleaginous and demulcent fluids.
Opium	Sulphate of zinc in a little water, tickling the throat with the finger or a feather to excite the stomach, vinegar and acidulated drinks, bleeding, purgative clysters, cold affusion.
Plumbi subcarbonas ——— Acetas	Tickle the throat with a feather or the finger to excite vomiting; Epsom salts, castor oil, clysters.
Potassæ nitras	Milk, mucilaginous liquids, opium in emollient clysters, &c.
Savine	See Colocynth.
Scammony	See ditto.
Staphisagriæ semina	See ditto.
Tabaci folia	Emetic, castor oil, acids, cordials, &c., see Belladonna
Veratri radix	See Hellebori fœtidi folia.
Zincum	See Arsenic, &c.

* These may be employed as antidotes to all the preparations of mercury.

A

SYSTEMATIC ARRANGEMENT

OF

DISEASES,

With few exceptions (as in italics), agreeable to Dr. Cullen.

CLASS I.

PYREXIÆ. (FEBRILE DISEASES.)

ORDER 1.

FEBRES. (FEVERS.)

Genera 6.

a. (*Intermittent fevers.*)

Tertiana......................every third day ague.
Quartana....................fourth day ague.
Quotidiana..................every day ague.

a. (*Continued fevers.*)

Synocha.....................inflammatory fever.
Typhus.......................nervous fever.
Synochus....................mixed fever.

ORDER 2.

PHLEGMASIÆ. (INFLAMMATIONS.)

Genera 23.

Phlogosis....................inflammation.
Phrenitis, or inflammation of the brain.

Ophthalmia, or inflammation of the eye.	
Otitis	*ear.*
Glossitis	*tongue.*
Cynanche	throat.
Pleuritis	*pleura.*
Pneumonia	lungs.
Carditis	heart.
Diaphragmatis	*diaphragm.*
Hepatitis	liver.
Gastritis	stomach.
Enteritis	bowel.
Splenitis	spleen.
Nephritis	kidney.
Cystitis	bladder.
Hysteritis	uterus.
Arthropuosis	*of a joint.*
Prostitis	*prostate gland.*
Peritonitis	*peritoneum*
Podagra	the gout.
Rheumatismus	rheumatism.
Odontalgia	tooth ache.

ORDER 3.

EXANTHEMATA. (ERUPTIVE FEVERS.)

Genera 10.

Variola	small pox.
Varicella	chicken pox.
Rubeola	measles.
Scarlatina	scarlet fever.
Pestis	plague.
Erysipelas	Saint Anthony's fire.

Miliaria....................miliary fever.
Urticaria...................nettle rash.
Pemphigus.................vesicular fever.
Aphtha.....................aphthous fever.

ORDER 4.

HÆMORRHAGIÆ. (HÆMORRHAGES.)

Genera 6.

Epistaxis..............bleeding from the nose.
Hæmoptysis............spitting or coughing blood.
Hæmorrhois............piles.
Menorrhagia...........flooding
Hæmaturia.............voiding of blood by urine.
Hæmatemesis...........vomiting of blood.

ORDER 5.

PROFLUVIA. (FLUXES.)

Genera 2.

Catarrhus.....................catarrh, or cold.
Dysenteria.....................dysentery

CLASS II.

NEUROSES. (NERVOUS DISEASES.)

ORDER 1.

COMATA. (SOPOROSE DISEASES.)

Genera 2.

Apoplexia, or........................apoplexy.
Paralysis..............................palsy.

ORDER 2.

ADYNAMIÆ. (DEFECT OF VITAL POWER.)

Genera 5.

Syncope, or fainting.
Vertigo .....giddiness.
Dyspepsia...indigestion.
Hypochondriasis (hypochondriac affections).
Chlorosis....retention of the menses, or green sickness.

ORDER 3.

SPASMI. (SPASMODIC DISEASES.)

Genera 17.

Tetanus..........cramp, or rigid spasm.
Trismus..........locked jaw.
Convulsio.........convulsions.
Chorea...........Saint Vitus' Dance.
Raphania..........raphany.
Epilepsia..........epilepsy.
Palpitatio.........palpitation of the heart.
Asthma...........asthma.
Dyspnœa..........difficulty of breathing.
Pertussis..........hooping cough.
Pyrosis...........water brash.
Colica............colic.
Cholera..........cholera, or vomiting and purging.
Diarrhœa..........purging.
Hysteria ....hysteric diseases.
Hydrophobia......canine madness.
Diabetes..........excessive discharge of urine.

ORDER 4.

VESANIÆ. (MENTAL DISEASES.)

Genera 4.

Amentia........................fatuity.

Melancholia........................melancholy.
Mania...........................madness.
Oneirodynia........................disturbed sleep.

CLASS III.

CACHEXIÆ. (Cachetic Diseases.)

Order 1.

Marcores. (Universal Emaciation.)

Genera 3.

Tabes...........a wasting away, with hectic fever.
Atrophia........nervous consumption.
Phthisis.........pulmonary consumption.

Order 2.

Intumescentiæ. (General Swellings.)

Genera 13.

a. Adipose Swellings 1.

Polysarcia.............corpulency, or obesity.

a. Flatulent Swellings. 3.

Pneumatosis......windy swellings.
Tympanites........tympany, or drum belly.
Physometra........a windy swelling of the uterus.

a. Dropsies. 7.

Anasarca......dropsy of the cellular membrane.
Hydrocephalus..dropsy in the head.
Hydrorachitis...water in the spine.
Hydrothorax...dropsy in the chest.
Ascites... ....dropsy of the belly.
Hydrometra......dropsy of the uterus.
Hydrocele.......dropsy of the tunica vaginalis testis.

a. 4 Swellings of the Solids. 2.

Physconia..........enlargement of the abdomen.
Rachitis............rickets.

ORDER 3.

IMPETIGINES. (CUTANEOUS DISEASES.)
Genera 8.

Scrophula..........scrophula, or king's evil.
Syphilis............venereal disease.
Scorbutus..........scurvy.
Elephantiasis........elephant-like eruption.
Lepra..............leprosy.
Frambœsia..........yaws, or raspberry-like eruption.
Trichoma............trichoma, or plaited hair.
Icterus.............jaundice.

CLASS IV.

LOCALES. (LOCAL DISEASES.)

ORDER 1.

DYSÆSTHESIÆ. (Diseases of the senses.)
Genera 9.

Caligo............a disease of the eye.
Amaurosis..........gutta serena.
Dysopia...........difficult sight.
Pseudoblepsis.......an imaginary, or depraved vision of objects.
Dysecœa..........difficulty of hearing, or deafness.
Paracusis..........depraved hearing.
Anosmia..........a loss of the sense of smelling.

Ageustia..........a defect, or loss of taste.
Anæthesia.........loss of the sense of touch.

DYSOREXIÆ. (Depraved appetite.)

Genera 9.

Bulimia...........canine, or insatiable appetite.
Polydipsia.........excessive thirst.
Pica.. ....depraved appetite, or a longing for unnatural food.
Satyriasis.........excessive desire for coition in men.
Nymphomania......excessive desire for coition in women.
Nostalgia.........vehement desire to return to one's native home.

Defective appetite.

Anorexia..........a want of appetite without a disgust of food.
Adipsia...........a want of thirst.
Anaphrodisia......impotence.

ORDER 3.

DYSCINESIÆ. (Motion impeded or depraved from an imperfection of the organ.)

Genera 7.

Aphonia...........a suppression of the voice without syncope or coma.
Mutitas...........an inability of articulation or dumbness.
Paraphonia.......alteration of the voice.

Psellismus.........defect or hesitation of speech.
Strabismus........squinting.
Dysphagia.........a difficulty of deglutition.
Contractura......a rigid contraction of the muscles or joints.

ORDER 4.

APOCENOSES. (Increased discharges.)

Genera 6.

Profusio..........a passive loss of blood.
Ephidrosis........a violent and morbid perspiration.
Epiphora.........the watery eye, or involuntary flow of tears.
Ptyalismus........ptyalism, salivation or increased secretion of saliva from the mouth.
Enuresis..........an incontinency or involuntary flow of urine.
Gonorrhœa.......a preternatural flux of fluid from the urethra.

ORDER 5.

EPISCHESES. (Obstructions.)

Genera 5.

Obstipatio.........costiveness.
Ischuria...........a suppression of urine.
Dysuria..........*(ardor urinæ)* a suppression, or difficulty and pain in discharging the urine.
Dyspermatismus...a slow or impeded emission of semen, during coition.

Amenorrhœa......a partial or total obstruction of the menses, from other causes than pregnancy or old age.

ORDER 6.

TUMORES. (Tumours.)

Genera 13.

Aneurisma........an aneurism, or preternatural dilatation of an artery, forming a tumour.

Varix.............a dilatation of a vein.

Ecchymoma......extravasation.

Scirrhus..........hard indolent tumour.

Cancer...........a painful scirrhous tumour, terminating in a fatal ulcer.

Bubo.............a swelling of the lymphatic glands, particularly of the groin and axilla.

Sarcoma..........a fleshy excrescence.

Clavus...........corns.

Lupia............encysted tumour.

Ganglion.........an encysted tumour, formed in the sheath of a tendon.

Hydatis..........animals formed like a bladder distended with aqueous fluid, found in the cavities of the body and viscera.

Hydarthrus.......the white swelling.

Exostosis........a morbid enlargement, or hard tumour of a bone.

ORDER 7.

ECTOPIÆ. (Parts displaced.)

Genera 3.

Hernia . . . . a rupture.
Prolapsus . . . . a protrusion or falling down of a part that is uncovered.
Luxatio. . . . . dislocation.

ORDER 8.

DYALYSES.

Genera 7.

Vulnus . . . . a wound.
Ulcus . . . . an ulcer or sore.
Herpes . . . . tetters, or cutaneous ulcers.
Tinea . . . . the scalled head.
Psora. . . . . the itch.
Fractura. . . . . a fracture.
Caries. . . . . a rottenness or mortification of the bones.

ANATOMY OF THE VISCERA,

ETC.

1. Q. How is the thorax formed?

A. By the dorsal vertebræ, sternum and ribs, the pleura, intercostal muscles, and diaphragm.

2. Q. What does the thorax contain?

A. The pleura, thymus gland, heart and great vessels, pericardium, lungs, œsophagus, and mediastinum.

3. Q. What is the mediastinum?

A. A double membrane of the pleura reflected backwards from the sternum.

4. Q. What is the use of the pleura?

A. To line the cavity of the thorax, to cover the lungs, to divide the cavity of the thorax.

5. Q. How many cavities has the mediastinum?

A. Three: an anterior, middle, and posterior cavity.

6. Q. What does the middle cavity of the mediastinum contain?

A. The pericardium and heart.

7. Q. What is situated in the anterior cavity?

A. The thymus gland?

8. Q. What does the posterior cavity contain?

A. The bronchia, œsophagus, descending aorta, beginning of the intercostal arteries, descending cava

vena azygos, thoracic duct, par vagum, and the great sympathetic nerve.

9. Q. Whence does the pleura derive its arteries?

A. From the bronchial and intercostals.

10. Q. What nerves are sent to the pleura?

A. Branches of the intercostals.

11. Q. What is the pericardium?

A. A firm membranous bag which surrounds the heart.

12. Q. How is the pericardium constructed?

A. It consists of three laminæ; the outer one is derived from the pleura, the second is composed of dense tendinous filaments, and the inner one is a continuation of the external coat of the heart.

13. Q. What is found in the pericardium after death?

A. A serous fluid, which is called liquor pericardii.

14. Q. How is the inner surface of the pericardium moistened?

A. By this fluid given out by the exhalants.

15. Q. How is the heart divided?

A. Into a *basis* turned backwards and upwards, an *apex* pointing forward and to the left, an *acute edge* to the left; a *rounded edge* to the right; a *convex* surface superiorly, and a *flat* surface inferiorly.

16. Q. How many cavities has the heart?

A. Four: two auricles at its base, and two ventricles constituting its body.

17. Q. Is there any communication between the auricles and the ventricles?

A. The auricles do not communicate (except in

the fœtus), but there is a communication between the right auricle and ventricle and the left auricle and ventricle.

18. Q. What divides the right from the left auricle?

A. The septum auricularum.

19. Q. What vessels enter the right auricle?

A. The superior and inferior vena cava and the coronary vein.

20. Q. How is the right auricle situated?

A. Toward the anterior part of the base of the heart.

21. How is the blood prevented passing into the coronary vein?

A. By a semi-lunar valve.

22. Q. What are the musculi pectinati?

A. Transverse fleshy fibres on the sides of the auricle.

23. Q. What is placed between the mouths of the venæ cavæ?

A. An angular projection called tuberculum loweri.

24. Q. What is the use of the tuberculum loweri?

A. It directs the blood into the auricle, preventing the blood of one vena cava rushing upon that of the other.

25. Q. What is the valve of Eustachius?

A. A fold of the inner membrane situated to the left of the opening of the inferior cava.

26. Q. What veins open into the left auricle?

A. The four pulmonary veins.

27. Q. Which is the largest auricle?

A. The right, but the sides of the left are the thickest.

28. Q. What is the situation of the right ventricle?

A. At the anterior part of the right side of the heart.

29. Q. What valve is placed between the right ventricle and auricle?

A. The tricuspid valve.

30. Q. What artery enters the right ventricle?

A. The pulmonary artery, at its upper and left side.

31. Q. What protects the mouth of the pulmonary artery?

A. Three semi-lunar valves.

32. Q. What is the use of the semi-lunar valves?

A. When the blood has passed from the ventricle into the pulmonary artery they prevent its return.

33. Q. What are the carneæ columnæ?

A. Flesh pillars by the contraction of which the valves of the ventricles are closed.

34. Q. How are the carneæ columnæ attached to the valves?

A. By tendons called chordæ-tendineæ.

35. Q. What is the situation of the left ventricle?

A. At the posterior and left part of the heart.

36. Q. What artery arises from the left ventricle?

A. The aorta from its upper and fore part.

37. Q. By what is the mouth of the aorta protected?

A. Three semi-lunar valves.

38. Q. What valve is placed between the left ventricle and auricle?

A. The mitral valve, its use is to prevent the blood returning into the auricle after it has reached the ventricle.

39. Q. How is the circulation of the blood effected?

A. By the alternate contraction of the auricles and ventricles of the heart.

40. Q. What is meant by the diastole of the heart?

A. The dilatation of the ventricles occasioned by the contraction of the auricles.

41. Q. What do you understand by the systole of the heart?

A. The contraction of the ventricles, by which the blood is propelled through the arteries.

42. Q. Describe the circulation of the blood.

A. The blood being brought by the superior and inferior venæ cavæ into the right auricle of the heart, which contracts and propels it past the tricuspid valve into the right ventricle, thence by a similar action it is conveyed by the pulmonary artery into the lungs, where it gives off carbonic acid gas and attracts oxygen and caloric from the air in the bronchial cells, it is then returned to the *left* auricle by the four pulmonary veins, this auricle contracts and passes it into the left ventricle which also contracts and throws it through the aorta into the capillary vessels of the system, and it is again returned by the venæ cavæ to undergo a similar process.

43. Q. What arteries nourish the heart?

A. The two coronary arteries; they arise from the aorta behind its semi-lunar valves.

44. Q. What nerves are sent to the heart?

A. Branches from the cardiac plexus.

45. Q. By what nerves is the cardiac plexus formed?

A. Branches of the trunk of the great sympathetic and its inferior cervical ganglion.

46. Q. What course do the coronary arteries take?

A. The right passes between the right auricle and ventricle, the left passes between the pulmonary artery and left ventricle.

47. Q. How are the lungs divided?

A. Into a right and left lobe; the right is subdivided into three lobes, and the left into two.

48. Q. What is there peculiar to the lower edge of the left lung?

A. A notch formed by the presence of the apex of the heart.

49. Q. What is the situation of the trachea?

A. In the anterior and lower part of the neck and thorax, behind the thymus gland, between the pleuræ in the space left superiorly between the duplicature of the mediastinum.

50. Q. How does the trachea terminate?

A. In two tubes called bronchia.

51. Q. Whereabouts does the trachea divide?

A. Behind the curvature of the aorta.

52. Q. What is the structure of the trachea?

A. It consists anteriorly of segments of cartilaginous circles, forming an incomplete canal; membra-

nous, posteriorly, it has four coats, a cellular coat, externally being a continuation of the cellular covering of the lungs, the second or internal perichondrium, the third or muscular coat, completing the circumference of the cartilaginous circle, and an internal mucous membrane which is extremely irritable.

53. Q. Where do the bronchia ramify?

A. In the substance of the lungs, terminating in the vesiculæ bronchiales or air cells; these are collected into bundles, called lobuli.

54. Q. What is the relative situation of the bronchial vessels and the branches of the pulmonary artery and veins?

A. A branch of the bronchia usually lies between a branch of the pulmonary artery and vein.

55. Q. What is formed by the ramifications of the pulmonary artery upon the bronchial cells?

A. A plexus called the rete mirabile of Malpighi.

56. Q. Which are the nutrient vessels of the lungs?

A. The bronchial arteries.

57. Q. Name the blood vessels of the lungs.

A. The pulmonary artery and veins, and the bronchial arteries and veins.

58. Q. Whence are the nerves of the lungs derived?

A. From the par vagum and great sympathetic nerves.

59. Q. How are the bronchial glands situated?

A. They are principally situated about the termination of the trachea, and commencement of the bronchia.

60. Q. How is inspiration performed?

A. The diaphragm contracts and descends, the ribs are elevated, and the air rushes in at the trachea, and fills the bronchial cells.

61. Q. How is expiration effected?

A. By the relaxation and ascent of the diaphragm, and descent of the ribs, the size of the thoracic cavity thus being lessened, the air is driven out.

62. Q. What are the parts peculiar to the fœtal circulation?

A. The foramen ovale of the heart, the canalis arteriosus, canalis venosus, funis or umbilical cord, umbilical vein, and umbilical arteries.

63. Q. How is the fœtal circulation performed?

A. The fœtus receives the blood from its mother by the umbilical vein, the greater part of which passes through the liver, and the rest by the ductus venosus into the vena cava, and thus to the right auricle of the heart; from thence part of it passes into the right ventricle, and the other part through the foramen ovale into the left auricle. A portion of that which passes into the right ventricle proceeds through the pulmonary artery to the lungs, but the greater part into the aorta by the canalis arteriosus. The blood which has reached the lungs, is transmitted by the pulmonary veins into the left auricle, and from thence with that already received through the foramen ovale into the left ventricle, which propels it through the aorta into the system. It is returned to the mother by the umbilical arteries.

64. Q. Enumerate the contents of the abdomen.

A. The abdomen contains the peritoneum, stomach.

liver, intestines, spleen, pancreas, kidneys, ureters, bladder, and part of the organs of generation.

65. Q. What is the use of the peritoneum?

A. It is a thin membrane which is reflected over, covers, and supports all the abdominal viscera.

66. Q. How is the liver situated?

A. Under the diaphragm, nearly filling the right hypochondrium, part of it being in the epigastrium, and terminating in the left hypochondrium.

67. Q. How many lobes has the liver?

A. Three:—the right and left lobes, and the lobulus spigelli.

68. Q. Which is the largest lobe?

A. The right.

69. Q. How is the right lobe of the liver divided from the left?

A. Superiorly by a membranous ligament called the ligamentum latum, and inferiorly, by a great scissure.

70. Q. What is the situation of the gall bladder?

A. It is situated in a fissure in the anterior part of the inferior surface of the great lobe of the liver.

71. Q. What is the office of the liver?

A. To secrete the bile.

72. Q. What is the use of the bile?

A. It excites the peristaltic motion of the intestines, and assists in chylification.

73. Q. What are the principal vessels of the liver?

A. The hepatic artery, vena portæ, hepatic veins, the excretory ducts and absorbents.

74. Q. What is the name given to the minute ter-

minations of the vena portæ, which ramify in the liver, and in which the bile is secreted?

A. The terminations are called folliculi or acini, in which the bile is secreted.

75. Q. Whence do the pori biliarii, or excretory ducts, arise, and how do they terminate?

A. The excretory ducts, or pori biliarii, commence from the folliculi or acini, and terminate in the ductus hepaticus.

76. Q. How does the hepatic duct terminate.

A. After joining the ductus cysticus from the gall bladder, it terminates in the duodenum.

77. Q. What vessels supply the liver with blood?

A. The hepatic artery and vena portæ.

78. Q. How is the blood carried from the liver?

A. By the hepatic veins to the inferior cava.

79. Q. Which is the nutrient artery of the liver.

A. The hepatic artery.

80. Q. What nerves supply the liver?

A. The liver derives its nerves from the great sympathetic and eighth pair.

81. Q. What is there peculiar to the vessels of the liver?

A. They are surrounded by a peritoneal covering, called Glisson's capsule.

82. Q. What are the names of the ducts which open on the inside of the first incurvation of the duodenum?

A. There are two which pierce the duodenum, the *ductus communis choledochus*, and the *ductus pancreaticus*.

83. Q. Describe the secretion and course of the bile.

A. The bile being secreted in the acini of the liver, by the extremities of the vena portæ, passes through the pori biliarii and hepatic duct into the ductus communis choledochus, and then part of it by the cystic duct into the gall bladder.

84. Q. When the bile leaves the gall bladder, how does it reach the intestines?

A. It returns through the cystic duct into the ductus communis choledochus, and, with the fresh bile from the hepatic duct, passes into the duodenum.

85. Q. How many ligaments has the liver?

A. Five;—1. Broad ligament, or ligamentum latum; 2. the round ligament, or ligamentum rotundum; 3 and 4. the right and left lateral ligaments; and 5. the coronary ligament.

86. Q. Describe the stomach.

A. The stomach is a membranous bag, in which the food is received and digested: it is situated in the left hypochondrium and epigastrium.

87. Q. Give the division of the abdomen.

A. The abdomen is divided into three regions:—1. A superior or epigastric; 2. a middle or umbilical; and 3. an inferior or hypogastric region.

88. Q. How many openings has the stomach?

A. Two; a superior or cardiac opening; and an inferior or pyloric opening.

89. Q. What are the relative situations of the cardia and pylorus?

A. The pylorus is situated lower, and is turned

more forward than the cardia, terminating in the intestines.

90. Q. At which extremity of the stomach is the cardia situated?

A. At the superior part, near its greater extremity.

91. Q. Where is the pylorus situated?

A. At the inferior or lesser extremity.

92. Q. What curvatures has the stomach, and how are they situated?

A. The stomach has two curvatures; a small one superiorly, and a greater curvature inferiorly.

93. Q. How many coats has the stomach, and of what nature are they?

A. The stomach has four coats:—1. A peritoneal or external coat; 2. a muscular coat next; 3. a nervous coat; 4. a villous or internal coat.

94. Q. What is there peculiar to the muscular coat of the stomach?

A. It has two planes of fibres; the external running longitudinally, and the internal transversely.

95. Q. How are the *rugæ* to be observed on the internal surface of the stomach formed?

A. By the two internal coats of the stomach being more extensive than the two external coats, they are necessarily thrown into folds or rugæ.

96. Q. Whence does the stomach derive its nerves?

A. From the eighth pair, and great sympathetic.

97. Q. Whence are the arteries of the stomach derived?

A. From the cœliac artery.

98. Q. Describe the vena portæ.

A. The vena portæ is a large vein, peculiar to the liver, which has two sets of branches; the one called the *vena portæ abdominalis*, ramifying over the stomach, spleen, pancreas, and intestines, with their respective arteries, and receiving their blood; the other, the *vena portæ hepatica*, distributed in the liver, and terminating in the hepatic veins.

99. Q. By what veins is the trunk of the vena portæ formed?

A. By three:—1. The vena mesenterica major; 2. vena mesenterica minor, or hæmorrhoidales interna; 3. vena splenica.

100. Q. How are the intestines divided?

A. Into large and small;—the small consisting of the duodenum jejunum and ilium; the large of the cæcum, colon, and rectum.

101. Q. How are the fæces prevented returning back into the small intestines, after they have reached the large?

A. By a pair of valves situated at the termination of the ilium, which may be called the valvulæ coli, valvulæ cæci, or valvulæ ilii.

102. Q. How many coats have the intestines?

A. Three:—a peritoneal, muscular, and a villous coat.

103. Q. Which is the broadest of the small intestines?

A. The duodenum.

104. Q. Where does the mesentery arise?

A. Near to the termination of the duodenum.

105. Q. What is the use of the mesentery?

A. To form a bed for the vessels, glands, and nerves of the intestines, to cover and support them in their proper situations, &c.

106. Q. What are the nerves of the mesentery?

A. Branches of the great intercostals, and par vagum.

107. Q. How is the mesentery formed?

A. Of two laminæ of the peritoneum.

108. Q. What is the name given to the excretory duct of the kidney?

A. It is called the ureter.

109. Q. What is the course of the ureter?

A. It descends obliquely from the kidney to the sides of the anterior part of the os sacrum, passing between the rectum and bladder, and terminating in the bladder in an oblique manner.

110. Q. What is the substance of the kidney?

A. It consists of an external or cortical, and an internal or medullary substance.

111. Q. What is there peculiar to the cortical substance of the kidney?

A. It secretes the urine.

112. Q. How many coats has the testicle?

A. Two:—the tunica vaginalis: and the tunica albuginea.

113. Q. Whence does the ureter arise, and where does it terminate?

A. It arises at the pelvis of the kidney, and terminates in the bladder.

114. Q. What is the artery of the kidney called?

A. The emulgent; it arises from the aorta.

115. Q. What nerves supply the kidney?

A. Branches of the eighth pair, and intercostal.

116. Q. What is the use of the omentum?

A. It is considered that the omentum lubricates the abdominal viscera, and preserves them from injury by friction.

117. Q. Which are the two principal arteries of the body?

A. The *pulmonary*, which arises from the right ventricle of the heart; and the *aorta*, from the left ventricle:—all other arteries being branches of these two.

118. Q. What arteries supply the head?

A. The two carotid arteries: the right arising from the arteria innominata, and the left from the aorta.

119. Q. Where do the carotid arteries divide?

A. Before the os hyöides, the carotid arteries divide into the *external* and *internal*.

120. Q. What are the branches of the external carotid?

A. Anteriorly, 1. the superior thyroideal; 2. the lingual; 3. the external maxillary or labial; 4. the transverse facial: posteriorly, 5. the occipital; 6. the posterior auris; 7. interiorly, the ascending pharyngeal; 8. it then divides into the temporal; and 9. the internal maxillary.

121. Q. What branches does the internal carotid give off?

A. 1. The ophthalmic; 2. the communicans; 3. the anterior cerebri; 4. the media cerebri.

122. Q. What branches does the arch of the aorta give off?

A. Three:—1. The arteria innominata; 2. the left carotid; 3. the left subclavian.

123. Q. What arteries are given off by the thoracic aorta?

A. 1. The bronchial; 2. the œsophageal; 3. the intercostal arteries.

124. Q. What arteries does the abdominal aorta give off?

A. 1. The phrenic; 2. cœliac; 3. superior mesenteric; 4. emulgent; 5. spermatic; 6. inferior mesenteric; 7. lumbar; 8. sacral; 9. iliac arteries.

125. Q. Where are the phrenic arteries distributed?

A. On the diaphragm and neighbouring parts.

126. Q. What are the branches of the cœliac?

A. 1. The coronary of the stomach; 2. the hepatic; 3. the splenic.

127. Q. What are the branches of the hepatic artery?

A. 1. The pylorica, or coronaria dextra; 2. the gastro-epiploica dextra; 3. the cystic arteries; it then divides into two branches, sending one to the right, and the other to the left lobe of the liver.

128. Q. What are the branches of the splenic artery?

A. It gives off several branches to the pancreas, then the gastro epiploica sinistra, the vasa brevia, and four or five branches terminating in the spleen.

129. Q. What are the principal branches of the inferior mesenteric artery?

A. 1. The colica sinistra; 2. branches to the sigmoid flexure of the colon; 3. the arteria hæmorrhoidalis interna to the rectum.

130. Q. Where do the emulgent arteries arise?

A. From the sides of the aorta, directly under the superior mesenteric,—one for each kidney.

131. Q. Do they enter the kidneys behind or before the emulgent vein?

A. Behind the vein.

132. Q. Which is the longest artery, the right emulgent or left?

A. The right is the longest.

133. Q. What are the branches of the superior mesenteric artery?

A. In its course it gives off sixteen or eighteen branches, principally to the small intestines. The first considerable branch is the colica dextra, which communicates with the inferior mesenteric; the next principal branch is the ilio-colica, which supplies the ileum and first of the colon.

134. Q. Whence does the superior mesenteric artery arise?

A. From the fore part of the aorta, below the cœliac artery.

135. Q. How is the brain divided?

A. Into the cerebrum and cerebellum.

136. Q. How many membranes has the brain?

A. Three:—1. the dura mater; 2. the tunica arachnoides; 3. and the pia mater.

137. Q. How many layers has the dura mater?

A. Two; an external and internal layer.

138. Q. What are the processes of the dura mater, and how are they formed?

A. The dura mater has four processes, formed by duplicatures of its internal lamina:—1. the *falx cerebri*, passing between the hemispheres of the cerebrum; 2. the *tentorium*, dividing the cerebrum from the cerebellum; 3. the *falx cerebelli*, between the hemispheres of the cerebellum; 4. the *sphenoidal folds*; two *anterior*, separating the anterior from the middle lobes of the cerebrum; and two *lateral* forming the fossula for the pituitary gland.

139. Q. What are the arteries of the dura mater?

A. They are called the anterior, middle and posterior meningeal arteries; the *anterior* arising from the orbit, the middle from the external carotid, and the posterior from the vertebral arteries.

140. Q. How many ventricles has the brain?

A. Five.

141. Q. Where is the fifth ventricle situated?

A. Between the laminæ of the septum lucidum.

142. Q. How are the lateral ventricles situated?

A. Under the corpus callosum and medullary arches of the cerebrum.

143. Q. What is the situation of the cerebrum?

A. It is situated above the tentorium, occupying the superior division of the cavity of the cranium.

144. Q. How is the cerebrum divided?

A. Into two lateral portions, which are termed he-

mispheres; and below, into two anterior, two middle, and two posterior lobes.

145. Q. What is the fissure between the anterior and middle lobes called?

A. The fissura magna silvii.

146. Q. Where is the situation of the corpus callosum?

A. It is situated at the bottom of the fissure which divides the two hemispheres of the cerebrum.

147. Q. What is understood by the rapha?

A. A groove running on the middle of the corpus callosum, having on each side a small medullary cord, is so called.

148. Q. What divides the lateral ventricles?

A. The septum lucidum, between the lamina of which is the fifth ventricle.

149. Q. What is the situation of the fornix?

A. Immediately under the septum lucidum, connected to it at its superior surface, and posteriorly to the corpus callosum.

150. Q. What is the situation of the choroid plexus?

A. They arise under the anterior part of the fornix, and extend over the whole of the lateral ventricles.

151. Q. How are the corpora striata situated?

A. At the bottom of the anterior and external part of the lateral ventricles.

152. Q. What is the substance of the corpora striata?

A. They consist of alternate striæ of medullary and cortical substances.

153. Q. Where are the thalami nervorum opticorum placed?

A. Between the posterior extremities of the corpora striata.

154. Q. Where is the tænia semicircularis situated?

A. In the groove formed between the corpus striatum and thalamus on each side.

155. Q. Where are the pedes hippocampi situated?

A. At the posterior part of the lateral ventricles.

156. Q. Where is the hippocampus minor situated?

A. In the posterior horn of each lateral ventricle.

157. Q. How is the *pineal* gland situated?

A. Behind the thalami nervorum opticorum, above the tubercula quadrigemina, under the posterior part of the fornix.

158. Q. Where are the tubercula quadrigemina situated?

A. Behind the thalami nervorum opticorum, and under the pineal gland.

159. Q. How many openings are there in the lateral ventricles?

A. Three:—1. the foramen of Monro; 2. the foramen commune anterius, or vulva; 3. the foramen commune posterius, or anus.

160. Q. Where is the foramen of Monro situated?

A. The foramen of Monro is an opening situated behind the anterior pillars of the fornix, forming a communication between the lateral ventricles.

161. Q. Where is the third ventricle?

A. Between the thalami nervorum opticorum.

162. Q. How does the third ventricle terminate?

A. It terminates in the infundibulum.

163. Q. What is the name of the canal which passes under the tubercula quadrigemina, and forms a communication between the third and fourth ventricle?

A. Iter à tertio ad quartum ventriculum.

164. Q. Where is the pituitary gland?

A. In the Sella turcica.

165. Q. How many lobes has the cerebellum?

A. Two, between which is situated the falx cerebelli.

166. Q. Where is the fourth ventricle situated?

A. It runs backward and downward along the middle of the cerebellum.

167. Q. Into what part of the fourth ventricle does the iter à tertio ad quartum ventriculum enter?

A. The iter à tertio ad quartum ventriculum enters the fourth ventricle anteriorly.

168. Q. How is the medulla oblongata formed?

A. By the union of the crura of the cerebrum and cerebellum.

169. Q. What is situated at the anterior part of the third ventricle?

A. The anterior crura of the fornix, the commissura, anterior cerebri, and the infundibulum.

170. Q. Where is the pons varolii?

A. It is situated across the union of the crura cerebri and cerebelli.

171. Q. What is the name of the membrane which enters the convolutions of the brain?

A. The pia mater.

172. Q. Does the tunica arachnoidea pass into the convolutions of the brain also?

A. No; it passes over the brain, and does not enter its substance.

173. Q. How many coats has the eye?

A. Six:—1. the tunica conjunctiva; 2. the tunica sclerotica; 3. the cornea; 4. the tunica choroides; 5. the iris; and 6. the retina.

174. Q. What are the humours of the eye?

A. The aqueous, crystalline, and the vitreous.

175. Q. Which is the most vascular coat of the eye?

A. The tunica choroides.

176. Q. How many chambers has the eye?

A. It has two, the anterior of which is the largest.

177. Q. What is the use of the pharynx?

A. Its principal use is to receive the food, and transmit it to the œsophagus.

178. Q. Describe the spleen.

A. It is a soft fleshy mass, of a purple colour, situated in the left hypochondrium, at the great extremity of the stomach; it is supplied with blood from the splenic artery, a branch of the cœliac; but its use is not at present perfectly known.

179. Q. What is the situation of the pancreas?

A. It is situated at the back part of the epigastric region, under the stomach, before the spine, the crura of the diaphragm, the aorta, and vena cava.

180. Q. What is the substance of the pancreas?

A. It is formed of small glandular particles, loosely connected together; it is of a greyish white colour.

181. Q. What is the situation of the uterus?

A. The uterus is situated between the bladder and rectum.

182. Q. How many openings has the uterus?

A. Three; two at the angles of its fundus, and one at its neck.

183. Q. Where does the opening lead to from the cervix of the uterus?

A. Into the vagina.

184. Q. Where do the other two openings of the uterus communicate?

A. With the fallopian tubes, and are very small.

185. Q. What arteries nourish the pleura?

A. Branches from the intercostal, diaphragmatic, bronchial, and œsophageal arteries.

186. Q. By what nerves is the spleen supplied?

A. By branches of the great sympathetic and eighth pair.

187. Q. What are the properties of healthy bile?

A. It should be of a yellow greenish colour; of a bitter taste; about the consistence of oil; and when shaken, appear frothy, similar to soap and water.

188. Q. Of how many parts is the blood composed?

A. The blood is composed of three parts:—1. Serum, the lightest; 2. coagulable lymph, or fibrin, the next; 3. the cruor, or red particles, the heaviest.

189. Q. What is the standard of animal heat in the human body?

A. About 95° of Fahrenheit's thermometer.

190. Q. How is nutrition accomplished?

A. By the lacteals, which select the chyle from the excrementitious portion of the food, and convey it into the thoracic duct.

191. Q. When the fæces have reached the large intestines, how are they prevented returning into the small?

A. By the valvula coli, situated at the commencement of the colon.

192. Q. By what action is the bile forced into the duodenum?

A. When the stomach is full, by pressure of the neighbouring viscera, and partly by the contraction of the gall bladder itself.

193. Q. What is the principal agent in digestion?

A. The gastric juice.

194. Q. What prevents the food from passing into the duodenum before it is properly digested?

A. The sphincter pylori.

195. Q. By what powers are the fæces expelled?

A. The abdominal and diaphragmatic muscles, the muscular coat of the rectum, and the levator ani, &c.

196. Q. How is the urine prevented returning to the kidneys after it has reached the bladder?

A. By the ureter's entering the bladder obliquely, it forms a valve over the orifice of the ureter.

TRANSLATION

OF

THE NEW

LONDON PHARMACOPŒIA.

TABLE OF CONTENTS.

THE

LONDON PHARMACOPŒIA.

WEIGHTS, MEASURES, ETC.

Two kinds of weights having been received into use in England, by one of which gold and silver, by the other almost all other commodities are estimated, we use the former, which is called Troy weight, and divide the pound thus; namely *

The pound ℔	contains	Twelve ounces ℥
The ounce	contains	Eight drachms ʒ
The drachm	contains	Three scruples ℈
The scruple	contains	Twenty grains, gr.

We have placed the signs by which it is customary to designate every weight.

The measures of liquids are also unlike, one being peculiar to ale, the other to wine; we employ the latter, and we use the measures of fluids derived from the wine gallon.

* That no error may arise from the names which are applied to weights and measures without discrimination; we have, after due consideration, invented certain new names, which a little use will render familiar.

We also measure the smallest parts of liquids by a glass measure graduated at equal distances; for the number of drops is deceptive and uncertain, twice as many drops being required of any tincture as of water to fill the same measure.

The wine gallon is defined by the laws of the realm which, for medicinal uses, we divide thus; namely,

A gallon C	contains	Eight pints O
A pint	contains	Sixteen fluid ounces f℥
A fluid ounce	contains	Eight fluid drachms fʒ
A fluid drachm	contains	Sixty minims ♏

We have placed the signs by which we designate every measure.

It is to be observed whether any copper or lead be present in the material from which mortars, measures, funnels, or any vessels are made, in which medicines are either prepared or preserved; therefore earthenware, glazed with lead are improper.

Preparations of acids, alkalies, earths, and metals, and salts of every kind ought to be kept in stopped glass vessels.

We measure the degree of heat by the thermometer of Fahrenheit, and when we order a *boiling heat* we mean that which is marked as the two hundred and twelfth degree, but a mild heat denotes that which is between the ninetieth and the hundredth degree.

Whenever mention is made of specific gravity, we suppose the substance of which we speak to be of the fifty-fifth degree of heat.

A water bath is made when any thing contained in a vessel is exposed either to boiling water itself, or to the vapour of it, that it may be heated.

A sand bath is made from sand gradually heated, into which any thing is placed, contained in its proper vessel.

Toxicodendri Folia	Rhus Toxicodendron	*Leaves of Sumach*	Stimulant, narcotic	gr. ij. to gr. v.
Tragacantha	Astragalus verus *Oliver, Voy. dans l' Empire Ottom.*	*Tragacanth*	Demulcent	gr. x. to ʒj.
Tussilago	Tussilago Farfara	*Coltsfoot*	Expectorant	ʒss. to ʒj.
VALERIANÆ Radix	Valeriana Officinalis, (Sylvestris)	*Root of Valerian*	Antispasmodic, stimulant	℈j. to ʒj.
Veratri Radix	Veratrum Album	*Root of White Hellebore*	Violent cathartic, emetic	gr. ij. to gr. v.
Ulmi Cortex	Ulmus Campestris	*Bark of the Elm*	Diuretic, astringent, tonic	℈j. to ʒj.
Uvæ Passæ	Vitis Vinifera	*Raisins*	....	....
Uvæ Ursi Folia	Arbutus Uva Ursi	*Leaves of the Wortleberry*	Tonic, diuretic, astringent	gr. x. to ʒj.
ZINCUM	....	*Zinc*	....	....
Zingiberis Radix	Zingiber Officinale *Roscoe, in Act. Soc. Lin.*	*Ginger Root*	Stomachic, carminative	gr. v. to ʒss.

PREPARATIONS AND COMPOUNDS.

ACIDS.

Dilute acetic acid.—Take of vinegar a gallon; let the dilute acetic acid distil in a sand bath from a glass retort into a glass and cooled receiver, then, having thrown away the first pint, keep the six pints next distilled. Vide Quest. 26, 27, 28, 29, 30, 31, 32.

Benzoic acid.—Take of benzoin a pound; put the benzoin into a glass vessel placed in sand, and a heat of three hundred degrees being applied, and increased gradually, sublime until nothing more ascends; compress what is sublimed, involved in blotting paper, that it may be separated from the oily part; then sublime again, the heat not being raised above the four hundredth degree. Vide Quest. 64. 66, 67, 68, 69.

Citric acid.—Take of the juice of lemons a pint, of prepared chalk an ounce, or a quantity that may be sufficient to saturate the juice; of diluted sulphuric acid, nine fluid ounces; add the chalk gradually to the lemon juice made hot, and mix; then pour off the liquor. Wash the citrate of lime which remains with warm water, frequently renewed; then dry it. Then pour upon the dried powder the diluted sulphuric acid, and boil for the sixth part of an hour (*ten minutes*). Ex-

press the liquor strongly through linen, and filter it through paper. Consume the filtered liquor with a gentle heat, so that when it cools crystals may be formed. That they may be pure, dissolve the crystals again, and a third time in water, and as often strain, boil down and set aside. Vide Quest. 51, 52, 53.

MURIATIC ACID.—Take of dried muriate of soda, two pounds; of sulphuric acid (*by weight*) twenty ounces; of distilled water, a pint and a half: first mix the acid with half a pint of the water, in a glass retort, and to this, when it has become cool, add the muriate of soda. Pour what is remaining of the water into a receiver, then, the retort being applied, let the muriatic acid pass over into this water, distilled from a sand bath, gradually increasing the heat until the retort becomes red.

The specific weight (*gravity*) of muriatic acid is to the specific gravity of distilled water, as 1.160. to 1.000.

One hundred and twenty-four grains of the crystals of the subcarbonate of soda are saturated by a hundred grains of this acid. Vide Quest. 74, 75.

NITRIC ACID.—Take of dried nitrate of potass, of sulphuric acid, of each (by weight), two pounds; mix them in a glass retort; then let the nitric acid distil in a sand bath until a red vapour is produced. Then, an ounce of dried nitrate of potass being added to it, let the acid distil again in the same manner.

The specific weight of nitric acid is to the specific weight of distilled water, as 1.500 to 1.000.

Two hundred and twelve grains of the crystals of subcarbonate of soda will be saturated by a hundred

grains of this acid. Vide Quest. 91. 93, 94, 95, 96. 99.

Diluted nitric acid.—Take of nitric acid, a fluid ounce; of distilled water, nine fluid ounces: mix. Vide Quest. 96.

Diluted sulphuric acid.—Take of sulphuric acid, a fluid ounce and a half; of distilled water, fourteen fluid ounces and a half: add the acid to the water gradually; then mix. Vide Quest. 80, 81, 82. 134. 367, 368.

Tartaric acid.—Take of the super-tartrate of potass, two pounds and a half; of boiling distilled water, three gallons; of prepared chalk, a pound; of sulphuric acid, a pound. Boil the super-tartrate of potass with two gallons of the distilled water, and add the prepared chalk gradually until bubbles are no longer excited: set aside that the Tartrate of Lime may subside; pour off the liquor, and wash the tartrate of lime frequently with distilled water, until it becomes tasteless; then pour upon it the sulphuric acid diluted with a gallon of boiling distilled water, and set it aside for twenty-four hours, shaking it occasionally, strain the liquor, and evaporate it in a water bath, that crystals may be formed. Vide Quest. 468.

ALKALIES AND THEIR SALTS.

Subcarbonate of ammonia.—Take of the muriate of ammonia, a pound; of dried prepared chalk, a pound and a half; rub them separately to a powder, then mix and sublime, gradually increasing the heat until

the retort becomes red. Vide Quest. 3, 20, 21, 22, 23, 24. 33, 34. 40. 431. 504.

Liquor of ammonia.—Take of muriate of ammonia, eight ounces; of fresh lime, six ounces; of water four pints; pour upon the lime a pint of the water, then cover the vessel, and set it aside for an hour, next add the muriate of ammonia and the remaining water, first made hot, and cover the vessel again; strain the liquor after it has become cold; then let twelve fluid ounces of the liquor of ammonia distil into a receiver, the heat of which does not exceed the fiftieth degree.

The specific weight of the liquor of ammonia, is to the weight of distilled water, as 0.960 to 1.000. Vide Quest. 304. 306.

Liquor of acetate of ammonia.—Take of the subcarbonate of ammonia, two ounces; of dilute acetic acid, four pints, or a quantity that may be sufficient; add the acid to the subcarbonate of ammonia until bubbles be no longer excited, and mix. Vide Quest. 122, 123. 366.

Liquor of subcarbonate of ammonia.—Take of the subcarbonate of ammonia, four ounces; of distilled water, a pint; dissolve the subcarbonate of ammonia in the water, and filter through paper.

Liquor of potass.—Take of the subcarbonate of potass, a pound; of fresh lime, half a pound; of boiling distilled water, a gallon: dissolve the potass in two pints of the water; add what is left of the water to the lime. Mix together the heated liquors; then set

aside in a covered vessel, and, after it shall have cooled, strain through cotton cloth.

If any diluted acid, dropped into it, excite bubbles, it will be necessary to add more lime, and to strain it again.

A pint of this liquor ought to weigh sixteen ounces. Vide Quest. 108. 112, 113, 114, 115. 458.

LIQUOR OF SUBCARBONATE OF POTASS.—Take of the subcarbonate of potass, a pound; of distilled water, twelve fluid ounces: dissolve the subcarbonate of potass in the water, and filter through paper.

POTASS WITH LIME.—Take of the liquor of potass, three pints; of fresh lime, a pound; boil down the liquor of potass to a pint, then add the lime slaked by the affusion of water, and diligently mix. Vide Quest. 340.

FUSED POTASS.—Take of the liquor of potass, a gallon; consume the water in a clean iron vessel upon the fire, until the ebullition having ceased, the potass is melted: pour off this upon an iron plate into convenient forms. Vide Quest. 246, 247, 248.

ACETATE OF POTASS.—Take of the subcarbonate of potass, a pound; of the strong acetic acid, two pints; of boiling distilled water two pints; add the acid, first mixed with the water, to the subcarbonate of potass, until bubbles are no longer excited, and strain. Consume the liquor first in a water-bath until the ebullition shall have ceased. Next expose it to a gradually increasing heat, and consume it again until a pellicle swims upon its surface; dry the pellicle taken off upon blotting paper. Let the liquor be consumed again, and

frequently, and the pellicle taken off and dried in the same manner. Vide Quest. 137, 138.

Carbonate of potass.—Take of the liquor of sub-carbonate of potass, a gallon; transmit carbonic acid through the liquor of the sub-carbonate of potass in a proper vessel to a perfect saturation, and strain. Let the strained liquor be evaporated that crystals may be formed, taking care that the heat does not exceed the hundred and twentieth degree. Having poured off the liquor, dry these *(the crystals)* upon blotting paper.

Carbonic acid is obtained with facility from white marble and diluted sulphuric acid. Vide Quest. 334. 424.

Sub-carbonate of potass. — Take of impure potass, powdered, three pounds; of boiling water, three pints and a half; dissolve the potass in the water, and strain; then pour it off into a clean iron vessel and consume the water with a mild fire, that the liquor may thicken; then the fire being removed, stir it constantly with an iron spatula *(or rod)* until the salt forms into small grains.

Sub-carbonate of potass may be prepared in the same manner from tartar, which shall have been first burnt, until it be of an ash colour.

Sulphate of potass.—Take of the salt which remains after the distillation of nitric acid, two pounds; of boiling water, two gallons; mix that the salt may be dissolved; then add of the sub-carbonate of potass what may be sufficient to saturate the acid, then boil until a pellicle swims upon it, and when you shall have strained it, set it aside that crystals may be formed. Having poured off the liquor, dry these upon

bibulous paper *(Blotting paper)*. Vide Quest. 95, 110, 111. 428.

Super-sulphate of potass.—Take of the salt which remains after the distillation of nitric acid, two pounds; of boiling water, four pints; mix that the salt may be dissolved and strain: next, boil it to one half, and set it by, that crystals may be formed. Having poured off the liquor, dry these *(the crystals)* upon blotting paper. Vide Quest. 426, 427, 428.

Tartrate of potass.—Take of the sub-carbonate of potass, sixteen ounces; of the super-tartrate of potass, three pounds; of boiling water, a gallon; dissolve the sub-carbonate of potass in the water; then add the super-tartrate of potass rubbed into a powder, until bubbles are no longer excited. Filter the liquor through paper; next, boil until a pellicle swims upon it, and set aside that crystals may be formed. Having poured off the liquor, dry these *(the crystals)* upon blotting paper. Vide Quest. 290, 291, 292.

Carbonate of soda.—Take of the sub-carbonate of soda, a pound; of distilled water, three pints; dissolve the sub-carbonate of soda in the distilled water. Then transmit carbonic acid through the liquor in a proper vessel to a perfect saturation, and set it aside that crystals may be formed. Dry the crystals folded and compressed in blotting paper. Consume the remaining liquor, taking care the heat does not exceed the hundred and twentieth degree, that crystals may be again produced. Dry and compress these in the same manner. Vide Quest. 191, 339. 502.

Sub-carbonate of soda.—Take of impure soda

rubbed into powder, a pound; of boiling distilled water, four pints; boil the soda in the water for half an hour, and strain. Let this evaporate to two pints, and be set aside that crystals may be formed; throw away the remaining liquor. Vide Quest. 225.

Dried sub-carbonate of soda.—Take of the sub-carbonate of soda, a pound; apply a boiling heat to the sub-carbonate of soda in a clean iron vessel, until it be perfectly dried, and stir it continually together with an iron spatula *(or rod)*. Finally, rub it to a powder. Vide Quest. 105. 227.

Sulphate of soda.—Take of the salt which remains after the distillation of muriatic acid, two pounds; of boiling water, two pints and a half; dissolve the salt in the water, then add gradually of the sub-carbonate of soda what may be sufficient to saturate the acid. Boil down until a pellicle appears, and when you have strained it, set it aside, that crystals may be formed. Having poured off the water, dry these upon blotting paper. Vide Quest. 215, 216.

Tartarized soda.—Take of the sub-carbonate of soda, twenty ounces; of super-tartrate of potass powdered, two pounds; of boiling water, ten pints; dissolve the sub-carbonate of soda in the water, and add gradually the super-tartrate of potass. Filter the liquor through paper; then boil it until a pellicle swims upon it, and set aside that crystals may be formed. Having poured off the water, dry these upon blotting paper. Vide Quest. 228. 429, 430.

EARTHS AND THEIR SALTS.

Dried alum.—Let alum dissolve in an earthen

vessel over the fire, then let the fire be increased until the ebullition shall have ceased. Vide Quest. 88, 89. 92.

Compound liquor of alum.—Take of alum, of the sulphate of zinc, of each half an ounce; of boiling water, two pints; dissolve the alum and the sulphate of zinc together in the water: next, filter the liquor through paper.

Lime.—Take of white marble, a pound; bruise it into pieces and burn it in a crucible with a fierce fire for an hour, or until the carbonic acid shall be completely expelled, so that dilute acetic acid on being added excites no bubbles. Vide Quest. 432. 457.

Lime from shells.—In the same manner lime may also be made from shells.

Liquor of lime.—Take of lime, half a pound; of boiling distilled water, twelve pints; pour the water upon the lime, and shake them together; then cover the vessel directly and set it by for three hours; then preserve the liquor with the remaining lime in stopped glass vessels, and when it is to be used, take from the clear liquor. Vide Quest. 478.

Muriate of lime.—Take of the salt which remains after the sublimation of the subcarbonate of ammonia, two pounds; of water a pint. Mix and filter through paper; let the liquor evaporate until the salt be dried. Keep this in a vessel accurately stopped. Vide Quest. 431.

Liquor of muriate of lime.—Take of the muriate of lime, two ounces; of distilled water, three fluid ounces. Dissolve the muriate of lime in the water, then filter it through paper.

PREPARED CHALK.—Take of chalk, a pound; add a little water to the chalk, and rub it that it may be made a subtil powder. Cast this into a large vessel filled with water; then shake it, and, a short time having intervened, transmit the supernatant water as yet turbid into another vessel, and set it by that the powder may subside; finally, having poured off the water, dry the powder. Vide Quest. 323. 359, 360.

MAGNESIA.—Take of the sub-carbonate of magnesia, four ounces; burn it in a fierce heat for two hours, or until dilute acetic acid dropped in excite no bubbles. Vide Quest. 181, 182, 183. 311, 312.

SUBCARBONATE OF MAGNESIA.—Take of the sulphate of magnesia, a pound; of the subcarbonate of potass, nine ounces; of water, three gallons. Dissolve separately the subcarbonate of potass in three pints of water; the sulphate of magnesia in five pints of the water, and strain; next add the remaining water to the liquor of the sulphate of magnesia, and boil; and mix to it whilst it is boiling, the former liquor, continually stirring with a spatula, then strain it through cloth: finally, wash the powder frequently by the affusion of boiling water, and dry it upon blotting paper in a heat of two hundred degrees. Vide Quest. 116.

METALS AND THEIR SALTS.

PREPARATIONS OF ANTIMONY.

PRECIPITATED SULPHURET OF ANTIMONY.—Take of sulphuret of antimony powdered, two pounds; of the liquor of potass, four pints; of distilled water, three pints; of diluted sulphuric acid, a quantity that may be

sufficient. Mix the sulphuret of antimony, the liquor of potass, and the water together, and boil with a slow fire for three hours, stirring it continually, adding from time to time distilled water so that it may always fill the same measure.

Strain the liquor immediately through double cloth and, as yet hot, drop into it gradually of diluted sulphuric acid a quantity that may be sufficient to precipitate the powder, then wash the sulphate of potass with hot water, dry the precipitated sulphuret of antimony, and rub it into a very fine powder. Vide Quest. 350, 351. 481.

Tartarized antimony.—Take of the glass of antimony reduced to a very subtil powder, supertartrate of potass powdered, each a pound; of boiling distilled water, a gallon; mix accurately the glass of antimony with the supertartrate of potass, and throw them gradually into the boiling distilled water, continually stirring it with a spatula; boil for a quarter of an hour, and set it by. Strain the liquor when cold, and boil down the strained liquor that crystals may be formed. Vide Quest. 435, 436, 437, 438. 452.

Wine of tartarized antimony.—Take of tartarized antimony, a scruple; of boiling distilled water, eight fluid ounces; of rectified spirit, two fluid ounces. Dissolve the tartarized antimony in the boiling distilled water, then, having strained the liquor, add the spirit.

Antimonial powder.—Take of sulphuret of antimony powdered a pound; of hartshorn shavings, two pounds.

Mix, and cast them into a wide crucible, heated to whiteness, and continually stir them until a visible vapour shall no longer ascend. Rub what remains into a powder and put it into a proper crucible; then expose it to a fire, and increase it gradually that it may be white, for two hours Rub the residue, that a very fine powder may be formed. Vide Quest. 127, 128, 129.

PREPARATION OF SILVER.

Nitrate of silver.—Take of silver, an ounce; of nitric acid, a fluid ounce; of distilled water, two fluid ounces. Mix the nitric acid with the water, and dissolve the silver in these in a sand bath. Next gradually increase the heat that the nitrate of silver may be dried. Dissolve this in a crucible by a mild fire, until, the water being expelled, ebullition shall cease; then pour it off directly into proper forms. Vide Quest. 411.

PREPARATIONS OF ARSENIC.

Sublimed white arsenic.—Reduce white arsenic into a powder, then cast it into a crucible, and, having applied it to the fire, sublime into another crucible placed upon the former one. Vide Quest. 521. 461.

Arsenical liquor.—Take of sublimed white arsenic rubbed into a very fine powder, subcarbonate of potass from tartar, of each sixty-four grains; of compound spirit of lavender, four fluid drachms; of distilled water, a pint. Boil the white arsenic and the subcarbonate of potass with the water in a glass vessel until all the arsenic shall be dissolved; to the liquor cooled add the

compound spirit of lavender. Finally add thereto, of distilled water, as much as may be sufficient to accurately fill the measure of a pint. Vide Quest. 414.

PREPARATION OF BISMUTH.

Sub-nitrate of bismuth.—Take of Bismuth, an ounce; of nitric acid, a fluid ounce; of distilled water, three pints; mix six fluid drachms of distilled water with the nitric acid, and dissolve the bismuth in this, then strain. Add what is remaining of the water to the strained liquor, and set it by that the powder may subside. Next, having poured off the super-natant liquor, wash the sub-nitrate of bismuth with distilled water, and dry it with a mild heat, folded in blotting paper. Vide Quest. 310. 462.

PREPARATIONS FROM COPPER.

Ammoniated copper.—Take of the sulphate of copper, half an ounce; of the subcarbonate of ammonia six drachms. Rub them together in a glass mortar until ebullition shall have ceased; next, dry the ammoniated copper with a mild heat, folded in blotting paper. Vide Quest. 516. 520.

Liquor of ammoniated copper.—Take of ammoniated copper, a drachm; of distilled water, a pint; dissolve the ammoniated copper in the water, and filter through paper.

PRERARATIONS FROM IRON.

Ammoniated iron.—Take of the subcarbon-

ate of iron; of muriatic acid; of the muriate of ammonia, each a pound; pour upon the subcarbonate of iron the muriatic acid, and set aside until bubbles be no longer excited. Strain the liquor through paper, and boil down the strained (*liquor*) until all moisture be consumed; mix diligently what remains with the muriate of ammonia, then, having applied a fierce heat, sublime immediately; finally, rub it into a powder. Vide Quest. 307, 308, 361.

Subcarbonate of iron.—Take of the sulphate of iron, eight ounces; of the subcarbonate of soda, six ounces; of boiling water, a gallon; dissolve the sulphate of iron, and the subcarbonate of soda, separately, in four pints of the water; then mix the liquors together and set aside that the powder may subside, then, having poured off the supernatant liquor, wash the subcarbonate of iron in warm water, and dry it with a mild heat, folded in blotting paper. Vide Quest. 302, 303.

Sulphate of iron.—Take of iron, of sulphuric acid, each (by weight), eight ounces; of water, four pints. Mix the sulphuric acid with the water in a glass vessel, and add the iron to these; then, when bubbles shall have ceased to go forth, filter the liquor through paper, and consume it over the fire so that as it cools crystals may be formed. Having poured off the liquor, dry these upon blotting paper. Vide Quest. 363.

Tartarized iron—Take of iron, a pound; of super-tartrate of potass powdered, two pounds; of distilled water, five pints, or as much as may be necessary. Rub the iron and super-tartrate of potass together, and ex-

pose them to the air for twenty days with a pint of water in an open glass vessel, shaking them every day, adding from time to time distilled water that they may be always moist. Then boil for a quarter of an hour in four pints of distilled water, and strain. Consume the liquor in a water-bath until the tartarized iron be completely dried. Rub this into powder, and keep it in a well-stopped vessel. Vide Quest. 131, 132.

LIQUOR OF ALKALINE IRON.—Take of iron two drachms and a half; of nitric acid, two fluid ounces; of distilled water, six fluid ounces; of the liquor of the sub-carbonate of potass, six fluid ounces; pour upon the iron, the acid and water mixed together: then, when bubbles shall have ceased to go forth, pour off the liquor, as yet acid. Add this gradually and at intervals to the liquor of sub-carbonate of potass, occasionally shaking it until it becoming of a brownish red colour, bubbles be no longer excited. Finally, set aside for six hours, and pour off the liquor. Vide Quest. 450.

TINCTURE OF AMMONIATED IRON.—Take of ammoniated iron, four ounces; of proof spirit, a pint; macerate and strain. Vide Quest. 324.

TINCTURE OF MURIATE OF IRON.—Take of the sub-carbonate of iron, half a pound; of muriatic acid, a pint; of rectified spirit, three pints; pour the acid upon the sub-carbonate of iron, in a glass vessel, and shake it from time to time for three days. Set it aside that the dregs (if there be any) may subside; then pour off the liquor, and add to it the spirit. Vide Quest. 440, 441.

Wine of iron.—Take of iron, a drachm; of super-tartrate of potass powdered, six drachms; of distilled water, two pints, or as much as may be sufficient; of proof spirit, twenty fluid ounces; rub the iron and the super-tartrate of potass together, and expose it to the air for six weeks in an open glass vessel with a fluid ounce of water, stirring it every day with a spatula, adding distilled water occasionally that it may be at all times moist. Then dry it with a mild heat, rub it into powder, and mix it with thirty fluid ounces of distilled water. Strain the liquor, and when strained add the spirit. Vide Quest. 165, 166, 167.

PREPARATIONS FROM QUICKSILVER.

Mercury with chalk.—Take of purified mercury by weight, three ounces; of prepared chalk, five ounces; rub them together until globules be no longer conspicuous. Vide Quest. 451.

Nitric oxide of mercury.—Take of purified mercury, by weight, three pounds; of nitric acid, by weight, a pound and a half; of distilled water, two pints; mix in a glass vessel, and boil until the mercury be dissolved and, the water being consumed, a white material remains. Rub this into powder, and cast it into another vessel which is not so deep, then apply to it a gentle fire, and raise it gradually until a red vapour shall have ceased to go forth. Vide Quest. 168, 169, 170.

Grey oxide of mercury.—Take of the sub-muriate of mercury, an ounce; of the liquor of lime, a gallon; boil the sub-muriate of mercury in the liquor of lime,

continually stirring it until the grey oxide of mercury subsides. Wash this in distilled water, next dry it. Vide Quest. 415.

Red oxide of mercury.—Take of purified mercury, *by weight*, a pound; put the mercury into a tall glass vessel to which there is a narrow mouth, and a broad neck, apply to this open vessel a heat of six hundred degrees, until the mercury shall form into red scales; then rub it into a very fine powder. Vide Quest. 313, 314. 421.

Oxymuriate of mercury.—Take of purified mercury, *by weight*, two pounds; of sulphuric acid, *by weight*, thirty ounces; of dried muriate of soda, four pounds; boil the mercury with the sulphuric acid in a glass vessel, until the sulphate of mercury shall be dried, triturate this, when it shall have cooled, with the muriate of soda in an earthern mortar; then sublime from a glass cucurbit, with a heat gradually increased.

Liquor of oxymuriate of mercury.—Take of oxymuriate of mercury, eight grains; of distilled water, fifteen fluid ounces; of rectified spirit, a fluid ounce; dissolve the oxymuriate of mercury in the distilled water, and add to it the spirit. Vide Quest. 330, 331. 401.

White precipitated mercury.—Take of the oxymuriate of mercury, half a pound; of the muriate of ammonia, four ounces; of the liquor of the sub-carbonate of potass, half a pint; of distilled water, four pints; first dissolve the muriate of ammonia, next the oxymuriate of mercury in the distilled water, and add to these the liquor of the sub-carbonate of potass.

Wash the precipitated powder, until it shall become tasteless, then dry it. Vide Quest. 335, 336.

Purified mercury.—Pour the mercury into an iron retort, and, having applied a fire, let the purified mercury distil.

Sub-muriate of mercury. — Take of purified mercury, *by weight*, four pounds; of sulphuric acid, *by weight*, thirty ounces; of the muriate of soda, a pound and a half; of the muriate of ammonia, eight ounces; boil two pounds of the mercury with the sulphuric acid in a glass vessel, until the sulphate of mercury shall be dried; when it has cooled triturate this with two pounds of mercury, in an earthen mortar, that they may be well mixed. Then add the muriate of soda, and rub them together until globules be no longer conspicuous; then sublime. Triturate the sublimate into a very fine powder, transmit it through a sieve, and mix it diligently with the muriate of ammonia, first dissolved in a gallon of boiling distilled water. Set it by that the powder may subside. Pour off the liquor and wash the powder frequently in boiling distilled water, until having dropped in liquor of ammonia nothing shall be precipitated. Finally, let it be made a very fine powder in the same manner in which we have ordered chalk to be prepared. Vide Quest. 459, 460. 464.

Black sulphuret of mercury.—Take of purified mercury, *by weight*, a pound; of sublimed sulphur a pound; rub them together until globules be no longer visible. Vide Quest. 442, 443.

Red sulphuret of mercury.—Take of purified mercury, by weight, forty ounces: of sublimed sulphur eight ounces; mix the mercury with the sulphur dissolved over the fire, and as soon as the mass swells, remove the vessel from the fire, and cover it strongly lest it should inflame; then rub it into a powder and sublime. Vide Quest. 422.

PREPARATIONS FROM LEAD.

Acetate of lead.—Take of the sub-carbonate of lead, a pound; of strong acetic acid, a pint; of boiling distilled water, a pint and half; mix the acid with the water; add gradually to these the sub-carbonate of lead, and boil until the acid be saturated; then filter it through paper, and, the water being consumed until a pellicle floats, set it by that crystals may be formed. Having poured off the liquor, dry these *(the crystals)* upon blotting paper. Vide Quest. 358.

Liquor of subacetate of lead.—Take of semi-vitreous oxide of lead, two pounds; of dilute acetic acid, a gallon; mix and boil down to six pints, continually stirring it; then set aside, that the dregs may subside and strain. Vide Quest. 357.

Diluted liquor of the sub-acetate of lead.—Take of the liquor of sub-acetate of lead, a fluid drachm; of distilled water, a pint; of proof spirit, a fluid drachm; mix.

PREPARATIONS FROM ZINC.

Prepared calamine.—Burn the calamine, then

triturate it; next, let it be made a very fine powder in the same manner in which we directed chalk to be prepared.

Oxide of zinc.—Take of the sulphate of zinc, a pound; of the liquor of ammonia, a pint, or a quantity that may be sufficient; of distilled water, a pint; dissolve the sulphate of zinc in the distilled water, and add of the liquor of ammonia as much as may be sufficient, that the oxide of zinc may be completely precipitated. Having poured off the liquor, wash the powder in distilled water frequently, and dry it in a sand bath. Vide Quest. 471.

Sulphate of zinc.—Take of small pieces of zinc, four ounces; of sulphuric acid, *by weight*, six ounces; of distilled water, four pints; mix them in a glass vessel, and, effervescence being finished, filter the liquor through paper; then boil it down until a pellicle floats, and set it by that crystals may be formed. Vide Quest. 444. 472.

PREPARATIONS FROM SULPHUR.

Sulphurated oil.—Take of washed sulphur, two ounces; of the oil of olive, a pint; throw the sulphur gradually to the oil heated in a large iron vessel, and stir it continually with a spatula, until united. Vide Quest. 285.

Sulphuret of potass.—Take of washed sulphur, an ounce; of the sub-carbonate of potass, two ounces; rub them together, and place them upon the fire in a close crucible until they shall have combined. Vide Quest. 381.

Washed sulphur.—Take of sublimed sulphur, a pound; pour upon it boiling water, that the acid, if there be any, may be completely washed away, then dry it.

Precipitated sulphur.—Take of sublimed sulphur, a pound; of fresh lime, two pounds; of water, four gallons; boil the sulphur and the lime together in the water; then strain the liquor through paper, and drop into it as much muriatic acid as may be sufficient to throw down the sulphur. Finally, wash this frequently by pouring water upon it until it shall be made tasteless. Vide Quest. 382. 384.

VEGETABLES.

Vegetables are to be gathered from places and soils, where they grow spontaneously in a dry season *(when they are)* neither wet with showers, nor dew; they are to be collected annually, and those which shall have been kept longer, to be thrown away.

Roots, for the most part, are to be dug up before the stalks or leaves shoot forth.

Barks ought to be collected in that season, when they are most easily to be separated from the wood.

Leaves are to be gathered after the flowers shall have blown *(expanded)* and before the seeds are ripened.

Flowers are to be plucked when lately unfolded.

Seeds are to be collected as soon as they are ripe *(when just ripe)* and before they begin to fall from the plant. They ought to be preserved in their proper seed vessels.

PREPARATION OF VEGETABLES.

VEGETABLES soon after they shall have been gathered, those excepted which are to be used fresh, ought to be thinly spread out, and dried as quickly as possible with a heat so mild that their colour may not be changed; then preserved in places, or proper vessels, excluded from the access of light and moisture.

Bury those roots which we have ordered to be kept fresh in dry sand. Cut the SQUILL ROOT, before drying it, transversely into thin slices.

Set by pulpy fruits if they be unripe, or ripe and dry, in a moist place that they may soften; then express the pulp through a hair sieve; afterwards boil it with a mild fire, frequently stirring it; finally, consume the water in a water-bath until the pulp becomes of a proper consistence.

Pour upon the bruised pods of cassia boiling water, that the pulp may be washed out; express through a coarse hair sieve, and then consume with a water-bath until the pulp acquires a proper consistence.

Press out the pulp or juice of ripe and fresh fruits through a sieve, no boiling water being employed.

GUM-RESINS.

Separate opium very diligently from extraneous things, especially from those which adhere to its surface. Let opium be kept SOFT, that it may be fit to form pills; and HARD, which shall have been so dried in a water-bath, that it may be rubbed into powder.

Those gum-resins are to be considered best, which shall have been selected in such a state that there may be no necessity for purification.

But if they appear to be impure, boil them in water until they become soft, and with a press, press them through a canvass hempen cloth; then set aside that the resinous part may subside. Having poured off the supernatant liquor, consume it in a water-bath, adding the resinous part towards the end, that it may mix intimately with the gummy part.

Those gum resins which are easily melted, may be purified by putting them into an ox's bladder, and keeping them in boiling water until they become so soft that they may be separated from their impurities by pressing through an hempen cloth.

Dissolve the BALSAM OF STORAX in rectified spirit, and strain it; then, with a mild heat, let the spirit distil until it be formed into a proper consistence.

EXPRESSED OILS.

OIL OF ALMONDS.—Macerate either sweet or bitter almonds in cold water for twelve hours, and bruise them; then, without applying any heat, express the oil.

LINSEED OIL.—Bruise the linseed; then, without applying heat, express the oil.

CASTOR OIL.—Bruise the seeds of the ricinus, the husks being taken off; then, without applying heat, express the oil.

DISTILLED OILS.

OILS OF ANISEED—CHAMOMILE—CARRAWAY—JUNIPER

—LAVENDER—PEPPERMINT—SPEARMINT—MARJORAM—PIMENTA—PENNYROYAL—ROSEMARY:—The seeds of anise, and carraway, the flowers of chamomile, and lavender; the berries of juniper, and pimenta; the tops of rosemary, and the fresh herbs of the rest are to be employed.

Put any of these into an alembic, and add of water as much as will cover it; then let the oil distil into a large cooled vessel.

The water which distils out with the oils of carraway, peppermint, spearmint, pimenta and pennyroyal, are to be kept for use.

Oil of amber.—Place amber in an alembic, that the acid liquor, the oil, and the salt impregnated with oil, may distil in a sand bath, with a heat gradually increased. Then let the oil be distilled again, and a third time.

Rectified oil of turpentine.—Take of oil of turpentine, a pint; of water, four pints; let the oil distil.

DISTILLED WATERS.

Distilled water.—Take ten gallons of water, first let four pints distil, which having thrown away, let four gallons distil. Keep the distilled water in a glass bottle.

To each gallon of the following waters, add five fluid ounces of proof spirit, that they may be preserved pure:—

Dill water.—Take of bruised dill-seeds, a pound; pour to these as much water, that after distillation

there may remain what may be sufficient to prevent empyreuma. Let a gallon distil.

Carraway water.—Take of bruised seeds of carraway, a pound; pour to these so much water that after distillation there may remain a sufficient quantity to prevent empyreuma. Let a gallon distil.

Cinnamon water.—Take of bruised cinnamon bark, a pound, *or* of the oil of cinnamon, five scruples *by weight*; pour to the oil or bark, macerated in water for twenty-four hours, so much water that after distillation there shall remain a sufficiency to prevent empyreuma. Let a gallon distil.

Fennel water.—Take of the bruised seeds of the fennel, a pound; pour to these so much water that after distillation there shall remain what may be sufficient to prevent empyreuma. Let a gallon distil.

Peppermint water.—Take of peppermint, dried *, a pound and a half; *or*, of oil of peppermint, three drachms, *by weight*; pour to the herb, or the oil, so much water that after distillation there shall remain what may be sufficient to prevent empyreuma. Let a gallon distil.

Spearmint water.—Take of dried spearmint, a * pound and a half; *or*, of the oil of spearmint, three drachms *by weight*; pour to the herb, or to the oil, so much water, that after distillation there may remain what may be sufficient to prevent empyreuma. Let a gallon distil.

* Where the fresh herb is employed the weight used is to be doubled.

Water of pimenta.—Take of the berries of pimenta bruised, half a pound; of water, a pint; macerate the berries for twenty-four hours in the water; then add so much water that after distillation there may remain what may be sufficient to prevent empyreuma. Let a gallon distil.

Pennyroyal water.—Take of pennyroyal dried *, a pound and a half; or, of oil of pennyroyal, three drachms by weight; pour to the herbs, or to the oil, so much water that after distillation there may remain what may be sufficient to prevent empyreuma. Let a gallon distil.

Rose water.—Take of the petals of the damask rose *(hundred leaved rose)*, eight pounds; pour to these so much water that after distillation sufficient shall remain to prevent empyreuma. Let a gallon distil.

INFUSIONS.

Infusion of chamomile. — Take of chamomile flowers, two drachms; of boiling water half a pint; macerate for ten minutes, in a vessel lightly covered, and strain.

Compound infusion of horse-radish.—Take of fresh horse-radish root, sliced, of mustard seeds, bruised, of each an ounce, of compound spirit of horse-radish, a fluid ounce; of boiling water a pint; macerate the

* When fresh herbs are employed, they are to be used in double proportions.

root in the water for two hours, in a vessel lightly covered, and strain; then add the compound spirit of horse-radish.

Compound infusion of orange-peel.—Take of dried orange-peel, two drachms; of fresh lemon-peel, a drachm; of cloves bruised, half a drachm; of boiling water, half a pint; macerate for ten minutes in a vessel lightly covered, and strain.

Infusion of calumba.—Take of calumba, sliced, two drachms; of boiling water, half a pint; macerate for two hours in a vessel lightly covered, and strain. Vide Quest. 36, 37, 38, 39.

Infusion of cloves.—Take of cloves, bruised, a drachm; of boiling water, half a pint; macerate for two hours, in a vessel lightly covered, and strain.

Infusion of cascarilla.—Take of cascarilla bark, bruised, half an ounce; of boiling water, half a pint; macerate for two hours in a vessel lightly covered, and strain. Vide Quest. 373.

Compound infusion of catechu.—Take of extract of catechu, two drachms and a half; of cinnamon bark, bruised, half a drachm; of boiling water, half a pint; macerate for an hour in a vessel lightly covered, and strain. Vide Quest. 353, 354. 409.

Infusion of bark.—Take of the lance-leaved cinchona bark, bruised, half an ounce; of boiling water, half a pint; macerate for two hours in a vessel lightly covered, and strain.

Infusion of cusparia.—Take of cusparia bark, bruised, two drachms; of boiling water, half a pint;

macerate for two hours in a vessel lightly covered, and strain.

INFUSION OF DIGITALIS.—Take of the dried leaves of digitalis (leaves of purple fox-glove), a drachm; of spirit of cinnamon, half a fluid ounce; of boiling water half a pint; macerate for four hours in a vessel lightly covered, and strain; then add the spirit. Vide Quest. 352. 456.

COMPOUND INFUSION OF GENTIAN.—Take of gentian-root sliced, of orange-peel dried, of each a drachm; of fresh lemon-peel, two drachms; of boiling water, twelve fluid ounces; macerate for an hour in a vessel lightly covered, and strain. Vide Quest. 270, 271, 272. 277.

COMPOUND INFUSION OF LINSEED.—Take of linseed, bruised, an ounce; of liquorice root, sliced, half an ounce; of boiling water, two pints; macerate for four hours, by the fire, in a vessel lightly covered, and strain.

INFUSION OF QUASSIA.——Take of quassia wood, sliced, a scruple; of boiling water, half a pint; macerate for two hours in a vessel lightly covered, and strain.

INFUSION OF RHUBARB.— Take of rhubarb root, sliced, a drachm; of boiling water half a pint; macerate for two hours in a vessel lightly covered, and strain.—Vide Quest. 296, 297, 298, 299.

COMPOUND INFUSION OF ROSES.—Take of French rose petals, dried, half an ounce; of diluted sulphuric acid, three fluid drachms; of purified sugar, an ounce and a half; of boiling water, two pints and a half,

pour the water upon the rose petals in a glass vessel; then mix in the acid, and macerate for half an hour; finally, strain the liquor, and add to it the sugar. Vide Quest. 369. 379.

COMPOUND INFUSION OF SENNA.—Take of senna-leaves, an ounce and half; of ginger-root, sliced, a drachm; of boiling water a pint; macerate for an hour in a vessel lightly covered, and strain the liquor.

INFUSION OF SIMAROUBA.—Take of simarouba bark, bruised, half a drachm; of boiling water, a pint; macerate for two hours in a vessel lightly covered, and strain.

INFUSION OF TOBACCO.—Take of tobacco-leaves, a drachm; of boiling water, a pint; macerate for an hour in a vessel lightly covered, and strain. Vide Quest. 479.

MUCILAGES.

MUCILAGE OF ACACIA.—Take of acacia gum, four ounces; of boiling water half a pint; rub the gum with the water dropped into it gradually, until it shall form a mucilage. Vide Quest. 50.

MUCILAGE OF STARCH.—Take of starch, three drachms; of water, a pint; rub the starch with the water gradually dropped into it, until it shall form into a mucilage.

DECOCTIONS.

COMPOUND DECOCTION OF ALOES.—Take of extract of liquorice, half an ounce; of sub-carbonate of pot-

ass, two scruples; of extract of spiked aloes, in powder, of myrrh bruised, of saffron, each a drachm; of compound tincture of cardamoms, four fluid ounces; of water, a pint; boil down the liquorice, sub-carbonate of potass, aloes, myrrh, and saffron, with the water to twelve fluid ounces, and strain; then add the compound tincture of cardamoms. Vide Quest. 180.

Decoction of bark.—Take of the lance-leaved cinchona bark bruised, an ounce; of water, a pint; boil for ten minutes in a vessel lightly covered, and strain the liquor as yet hot.

Decoction of quince seeds.—Take of quince seeds, two drachms; of water, a pint; boil with a gentle fire for ten minutes, then strain.

Decoction of bitter-sweet (*woody nightshade*). Take of bitter-sweet stalks, sliced, an ounce; of water, a pint and a half; boil down to a pint, and strain.

Decoction of barley.—Take of barley seeds (*pearl barley*), two ounces; of water, four pints and a half; first wash away any extraneous substances adhering to them with cold water; then, having poured half a pint of water upon them, boil the seeds a short time. This water being thrown away, pour what is remaining, made boiling hot, upon the barley, then boil down to two pints, and strain.

Compound decoction of barley.—Take of decoction of barley, two pints; of figs, sliced, two ounces; of liquorice root, sliced and bruised, half an ounce; of raisins, stoned, two ounces; of water, a pint; boil down to two pints, and strain.

Decoction of liverwort (*iceland moss*).—Take

of liverwort, an ounce; of water, a pint and a half; boil down to a pint, and strain.

COMPOUND DECOCTION OF MALLOW.—Take of mallow dried, an ounce; of chamomile flowers, half an ounce: of water, a pint; boil for fifteen minutes, and strain. Vide Quest. 341.

DECOCTION OF POPPIES.—Take of poppy heads, sliced, four ounces; of water, four pints; boil for fifteen minutes, and strain.

DECOCTION OF OAK BARK.—Take of oak bark, an ounce; of water, two pints; boil down to one pint and strain.

DECOCTION OF SARSAPARILLA.—Take of sarsaparilla root, sliced, four ounces; of boiling water, four pints; macerate for four hours in a vessel lightly covered, by the fire; then take out the sarsaparilla root and bruise it, when bruised, return it to the liquor and macerate it again in a similar manner for two hours; then boil down to two pints, and strain. Vide Quest. 470.

COMPOUND DECOCTION OF SARSAPARILLA.—Take of the decoction of sarsaparilla, boiling, four pints; of sassafras root, sliced, of guaiacum wood shavings, of liquorice root, bruised, each an ounce; of the bark of the mezereon root, three drachms: boil down for fifteen minutes, and strain. Vide Quest. 325, 326. 470.

DECOCTION OF SENEGA.—Take of senega root, an ounce; of water, two pints; boil down to a pint, and strain.

DECOCTION OF ELM *(Bark.)*—Take of elm bark

bruised, four pints; of water, four pints; boil down to two pints, and strain. Vide Quest. 346, 347.

Decoction of white hellebore.—Take of white hellebore root bruised, an ounce; of water, two pints; of rectified spirit, two fluid ounces; boil down the white hellebore root in the water to a pint, and strain; then, after it shall have become cold, add the spirit. Vide Quest. 274, 275. 278. 281, 282.

EXTRACTS.

In preparing all the extracts, consume the moisture in a plate as speedily as possible by a water bath until they shall be of a proper consistence to form pills, and towards the end *(of the evaporation)* continually stir them with a spatula.

Sprinkle upon all the softer extracts a little rectified spirit.

Extract of aconite.—Take of fresh aconite leaves, a pound; bruise them in a stone mortar, sprinkling them with a little water; then express the juice, and evaporate it *without straining* until it becomes of a proper consistence. Vide Quest. 72, 73.

Purified extract of aloes.—Take of extract of aloes in powder, a pound; of boiling water, a gallon; macerate for three days in a gentle heat; then strain, and set it by that the dregs may subside, pour off the clear liquor and evaporate until it shall acquire a proper consistence.

Extract of chamomile.—Take of chamomile

flowers dried, a pound; of water, a gallon; boil down to four pints, and strain the liquor as yet hot; finally evaporate it, until it shall acquire a proper consistence.

EXTRACT OF BELLADONNA *(Deadly night shade leaves).*—Take of fresh belladonna leaves, a pound; bruise them in a stone mortar, sprinkling them with a little water; then express the juice, and evaporate it uncleared, until it shall acquire a proper consistence.

EXTRACT OF BARK.—Take of lance-leaved cinchona bark bruised, a pound; of water, a gallon; boil down to six pints, and strain the liquor as yet hot. In the same manner boil down four times in the like measure of water, and strain. Finally, evaporate all the liquors mixed together, until they shall acquire a proper consistence.

This extract ought to be kept SOFT that it may be fit to form pills, and HARD, that it may be rubbed into powder.

RESINOUS EXTRACT OF BARK.—Take of lance-leaved cinchona bark bruised, two pounds; rectified spirit, a gallon; macerate for four days, and strain. Let the tincture distil in a water bath, until it *(the extract)* shall acquire a proper consistence.

EXTRACT OF COLOCYNTH.—Take of colocynth pulp, a pound; of water, a gallon; boil down to four pints, and strain the liquor as yet hot; finally evaporate it, until it shall acquire a proper consistence

COMPOUND EXTRACT OF COLOCYNTH.—Take of the

pulp of colocynth sliced, six ounces; of extract of spiked aloes powdered, twelve ounces; of gum resin of scammony in powder, four ounces; of cardamom seeds in powder, an ounce; of hard soap, three ounces; of proof spirit, a gallon; macerate the colocynth pulp in the spirit, in a gentle heat for four days, strain the liquor and add to it the aloes, scammony, and soap, then evaporate the spirit, until it has acquired a proper consistence, and, mix with it the cardamom seeds, towards the end *(before the evaporation is finished)*. Vide Quest. 417, 418.

EXTRACT OF HEMLOCK.—Take of fresh hemlock, a pound; bruise it in a stone mortar, sprinkling it with a little water; then express the juice, and evaporate it without clearing it, until it shall acquire a proper consistence. Vide Quest. 463.

EXTRACT OF ELATERIUM *(wild cucumbers)*.—Slice the ripe fruit of elaterium, express the juice gently, and strain it through a fine hair sieve into a glass vessel; then set it by for some hours, until the thicker part has subsided. Having thrown away the thinner supernatant part; dry the thicker part with a mild heat. Vide Quest. 84, 85.

EXTRACT OF GENTIAN. — Take of gentian root sliced, a pound; of boiling water, a gallon; macerate for twenty-four hours; then boil down to four pints, and strain the liquor as yet hot; finally, evaporate it, until it shall acquire a proper consistence. Vide Quest. 270, 271, 272.

EXTRACT OF LIQUORICE.—Take of liquorice root

sliced, a pound; of boiling water, a gallon; macerate for twenty-four hours; then boil down to four pints, and strain the liquor as yet hot; finally, evaporate it, until it shall acquire a proper consistence.

Extract of logwood.—Take of logwood powdered, a pound; of boiling water, a gallon; macerate for twenty-four hours; then boil down to four pints, and strain the liquor whilst hot; finally, evaporate it until it shall acquire a proper consistence.

Extract of hops.—Take of the strobiles of the hop, four ounces; of boiling water, a gallon; boil down to four pints, and strain the liquor as yet hot; finally, evaporate it until it shall acquire a proper consistence.

Extract of henbane.—Take of fresh henbane leaves, a pound; bruise them in a stone mortar, sprinkled with a little water; then express the juice, and evaporate it uncleansed, until it shall acquire a proper consistence.

Extract of jalap.—Take of jalap root powdered, a pound; of rectified spirit, four pints; of water, a gallon; macerate the jalap root in the spirit for four days, and pour off the tincture; boil down the residue with the water, to two pints; then strain the tincture and the decoction separately, and let the decoction be evaporated, and the tincture distilled, until each shall become thick. Lastly, mix the extract with the resin, and evaporate it, until it shall acquire a proper consistence. Vide Quest. 293, 294.

Let this extract be kept soft that it may be fit to

form pills, and HARD that it may be rubbed into powder.

EXTRACT OF LETTUCE.—Take of fresh lettuce leaves, a pound; bruise them in a stone mortar, a little water being sprinkled upon them; then express the juice, and evaporate it unstrained, until it shall acquire a proper consistence. Vide Quest. 104, 105, 106, 107.

EXTRACT OF OPIUM.—Take of opium sliced, sixteen ounces; of water, a gallon; add a little of the water to the opium, and macerate for twelve hours, that it may become soft; then, having gradually dropped in the remaining water, rub them until they are well mixed; and set aside that the dregs may subside; then strain the liquor, and evaporate it until it shall acquire a proper consistence.

EXTRACT OF POPPY.—Take of poppy capsules deprived of their seeds bruised, a pound; of boiling water, a gallon; macerate for twenty-four hours; then boil down to four pints, and strain the liquor, as yet hot. Lastly, evaporate it until it shall acquire a proper consistence.

EXTRACT OF RHUBARB.—Take of the root of rhubarb powdered, a pound; of proof spirit, a pint; of water, seven pints; macerate for four days with a gentle heat; then strain, and set it by that the dregs may subside. Pour off the liquor, and evaporate it when strained, until it acquires a proper consistence.

EXTRACT OF SARSAPARILLA.—Take of the root of sarsaparilla sliced, a pound; of boiling water, a gallon; macerate for twenty-four hours; then boil

down to four pints, and strain the liquor, as yet hot; lastly, evaporate it until it shall acquire a proper consistence.

Extract of thorn apple.—Take of the seeds of thorn apple, a pound; of boiling water, a gallon; macerate for four hours in a vessel lightly covered by the fire-side; then take out the seeds, and bruise them in a stone mortar, return them when bruised into the liquor; then boil down to four pints and strain the liquor whilst hot. Lastly, evaporate it until it shall acquire a proper consistence.

Extract of dandelion.—Take of the fresh root of dandelion bruised, a pound; of boiling water, a gallon; macerate for twenty-four hours; then boil down to four pints, and strain the liquor whilst hot; lastly, evaporate it until it shall acquire a proper consistence. Vide Quest. 342, 343.

MIXTURES.

Mixture of (*gum*) ammoniac.—Take of *(gum)* ammoniac, two drachms; of water, half a pint; rub the ammoniac with the water gradually dropped into it until they are intimately mixed. Vide Quest. 218, 219.

Mixture of almonds.—Take of the confection of almonds, two ounces; of distilled water, a pint; add the water gradually to the confection of almonds, whilst rubbing them, until they are mixed; then strain.

Mixture of assafœtida.—Take of assafœtida,

two drachms; of water, half a pint; rub the assafœtida with the water gradually dropped in until they are very well mixed. Vide Quest. 240, 241, 242. 529.

Mixture of camphor.—Take of camphor, half a drachm; of rectified spirit, ten minims; of water, a pint; rub the camphor first with the spirit, then with the water, gradually dropped in and strain. Vide Quest. 374.

Mixture of burnt hartshorn.—Take of burnt hartshorn, two ounces; of gum arabic, an ounce; of water, three pints; boil down to two pints, continually stirring it, then strain.

Mixture of chalk.—Take of prepared chalk, half an ounce; of refined sugar, three drachms; of gum arabic powdered, half an ounce; of water, a pint; mix.

Compound mixture of iron.—Take of myrrh, in powder, a drachm; of subcarbonate of potass, twenty-five grains; of rose water, seven ounces and a half; of sulphate of iron, in powder, a scruple; of spirit of nutmeg, half a fluid ounce; of refined sugar, a drachm; rub together the myrrh with the spirit of nutmeg, and the subcarbonate of potass; and to these, whilst rubbing, add first the rose water with the sugar, and then the sulphate of iron. Put the mixture immediately into a proper glass vessel, and stop it. Vide Quest. 332, 333. 407.

Mixture of guaiacum.—Take of the gum resin of guaiacum, a drachm and a half; of refined sugar, two drachms; of mucilage of gum arabic, two fluid drachms; of the water of cinnamon, eight fluid

ounces; rub the guaiacum with the sugar, then with the mucilage, and to these, whilst rubbing, add gradually the water of cinnamon. Vide Quest. 364, 365. 395.

Mixture of musk.—Take of musk, of acacia gum powdered, of refined sugar, of each a drachm; of rose water, six fluid ounces; rub the musk with the sugar, then with the gum, dropping in gradually the rose water. Vide Quest. 222. 283, 284, 285, 286.

SPIRITS.

Vide Quest. 515, 516.

Alcohol.—Take of rectified spirit, a gallon; of subcarbonate of potass, three pounds; throw a pound of the subcarbonate of potass, previously heated to the three hundredth degree, to the spirit, and macerate for twenty-four hours, frequently stirring them; then, having poured off the spirit, add to it what is remaining of the subcarbonate of potass heated to the same degree; lastly, with a water-bath, let the alcohol distil, which is to be preserved in a stopped vessel.

The specific weight of alcohol is to the specific weight of distilled water, as .815 to 1.000. Vide Quest. 152. 491.

Spirit of ammonia.—Take of proof spirit, three pints; of muriate of ammonia, four ounces; of subcarbonate of potass, six ounces; mix, and with a gentle fire, let a pint and a half distil into a cooled receiver.

Aromatic spirit of ammonia.—Take of cinnamon bark bruised, of cloves bruised, of each two

drachms; of lemon peel, four ounces; of subcarbonate of potass, half a pound; of muriate of ammonia, five ounces; of rectified spirit, four pints; of water, a gallon; mix, and let six pints distil.

FŒTID SPIRIT OF AMMONIA.—Take of the spirit of ammonia, two pints; of assafœtida, two ounces; macerate for twelve hours; then, with a gentle fire, let a pint and a half distil into a cooled receiver.

SUCCINATED SPIRIT OF AMMONIA.—Take of mastich, three drachms; of rectified spirit, nine fluid drachms; of the oil of lavender, fourteen minims; of the oil of amber, four minims; of the solution of ammonia, ten fluid ounces; macerate the mastich in the spirit that it may be dissolved; and pour off the clear tincture; lastly, add the other ingredients, and shake the whole together.

SPIRIT OF ANISEED.—Take of the seeds of anise, bruised, half a pound; of proof spirit, a gallon; of water, what may be sufficient to prevent empyreuma; macerate for twenty-four hours; then, with a gentle fire, let a gallon distil.

COMPOUND SPIRIT OF HORSERADISH.—Take of the fresh root of horseradish sliced, of dried orange-peel, of each a pound; of nutmegs bruised, half an ounce; of proof spirit, a gallon; of water, what may be sufficient to prevent empyreuma; macerate for twenty-four hours; then, with a gentle fire, let one gallon distil.

SPIRIT OF CAMPHOR.—Take of camphor, four ounces; of rectified spirit, two pints; mix, that the camphor may be dissolved.

Spirit of carraway.—Take of the seeds of carraway bruised, a pound and a half; of proof spirit, a gallon; of water, a sufficient quantity to prevent empyreuma; macerate for twenty-four hours; then, with a gentle fire, let one gallon distil.

Spirit of cinnamon.—Take of oil of cinnamon, *by weight*, five scruples; of rectified spirit, four pints and a half; add the spirit to the oil, and pour thereon so much water that, after the distillation, there may remain what may be sufficient to prevent empyreuma; then, with a gentle fire, let a gallon distil.

Ammoniated spirit of meadow saffron.—Take of the seeds of meadow saffron, bruised, two ounces; of aromatic spirit of ammonia, a pint; macerate for fourteen days, and strain. Vide Quest. 419, 420. 474.

Compound spirit of juniper.—Take of the berries of juniper bruised, a pound; of the seeds of carraway, bruised, of the seeds of fennel, bruised, of each an ounce and a half; of proof spirit a gallon; of water what may be sufficient to prevent empyreuma; macerate for twenty-four hours; then, with a gentle fire, let a gallon distil.

Spirit of lavender.—Take of the flowers of fresh lavender, two pounds; of rectified spirit, a gallon; of water, what may be sufficient to prevent empyreuma; macerate for twenty-four hours; then, with a gentle fire, let a gallon distil.

Compound spirit of lavender.—Take of spirit of lavender, three pints; of spirit of rosemary, a pint; of cinnamon bark, bruised, of nutmegs, bruised, of

each half an ounce; of red saunders wood, sliced, an ounce; macerate for fourteen days, and strain.

Spirit of peppermint.—Take of the oil of peppermint, *by weight*, six scruples and a half; of rectified spirit, four pints and a half; add the spirit to the oil, and pour thereon so much water, that, after distillation, there may remain what may be sufficient to prevent empyreuma; then, with a gentle fire, let a gallon distil.

Spirit of spearmint.—Take of the oil of spearmint, *by weight*, six scruples and a half; of rectified spirit, four pints and a half; add the spirit to the oil, and pour thereon so much water, that, after distillation, there may remain what may be sufficient to prevent empyreuma; then, with a gentle fire, let a gallon distil.

Spirit of nutmeg.—Take of nutmegs, bruised, two ounces; of proof spirit, a gallon; of water, what may be sufficient to prevent empyreuma; macerate for twenty-four hours; then, with a gentle fire, let a gallon distil.

Spirit of pimenta.—Take of the berries of pimenta, bruised; two ounces; of proof spirit, a gallon; of water what may be sufficient to prevent empyreuma; macerate for twenty-four hours; then, with a gentle fire, let a gallon distil.

Spirit of penny-royal.—Take of oil of penny-royal, *by weight*, seven scruples; of rectified spirit, four pints and a half; add the spirit to the oil, and pour thereon so much water, that after distillation

there may remain a sufficient quantity to prevent empyreuma; then, with a gentle fire, let a gallon distil.

Spirit of rosemary.—Take of the oil of rosemary, *by weight*, an ounce; of rectified spirit, a gallon; add the spirit to the oil, and pour thereon so much water, that after distillation there may remain what may be sufficient to prevent empyreuma; then, with a gentle fire, let a gallon distil.

TINCTURES.

All tinctures ought to be prepared in stopped glass vessels, and to be frequently shaken whilst macerating.

Tincture of aloes.—Take of extract of spiked aloe, in powder, half an ounce; of extract of liquorice, an ounce and a half; of water, a pint; of rectified spirit, four fluid ounces; macerate for fourteen days, and strain. Vide Quest. 150.

Compound tincture of aloes.—Take of extract of spiked aloe, in powder, of saffron, of each three ounces; of tincture of myrrh, two pints; macerate for fourteen days, and strain. Vide Quest. 150. 412.

Tincture of assafœtida.—Take of assafœtida, four ounces; of rectified spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 240, 241, 242. 529.

Tincture of orange peel.—Take of fresh orange peel, three ounces; of proof spirit, two pints; macerate for fourteen days, and strain.

Compound tincture of benzoin.—Take of ben-

zoin, three ounces; of balsam of storax strained, two ounces; of balsam of tolu, an ounce; of extract of spiked aloe, half an ounce; of rectified spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 213.

TINCTURE OF CALUMBA.—Take of calumba sliced, two ounces and a half; of proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 56, 57, 58, 59.

COMPOUND TINCTURE OF CAMPHOR.—Take of camphor, two scruples; of hard opium, in powder, of ben zoic acid, each a drachm; of proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 205, 206. 273.

TINCTURE OF BLISTERING FLY.—Take of blistering flies bruised, three drachms; of proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 202, 203. 295. 495.

TINCTURE OF CAPSICUM.—Take of capsicum berries, an ounce; of proof spirit, two pints; macerate for fourteen days, and strain.

TINCTURE OF CARDAMOM.—Take of cardamom seeds bruised, three ounces; of proof spirit, two pints; macerate for fourteen days, and strain.

COMPOUND TINCTURE OF CARDAMOM.—Take of cardamom seeds, of carraway seeds, of cochineal, of each bruised two drachms; of cinnamon bark bruised, half an ounce; of raisins stoned, four ounces; of proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 413.

TINCTURE OF CASCARILLA.—Take of cascarilla

bark in powder, four ounces; proof spirit, two pints: macerate for fourteen days, and strain. Vide Quest. 256, 257. 373.

TINCTURE OF CASTOR.—Take of castor, in powder, two ounces; of rectified spirit, two pints: macerate for seven days, and strain. Vide Quest. 259, 260, 261.

TINCTURE OF CATECHU.—Take of extract of catechu, three ounces; of cinnamon bark bruised, two ounces; of proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 353, 354. 377. 408, 409.

TINCTURE OF CINCHONA.—Take of the bark of the lance-leaved cinchona in powder, seven ounces; proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 198. 201. 209, 210, 211.

AMMONIATED TINCTURE OF BARK.—Take of the bark of the lance-leaved cinchona in powder, four ounces; of aromatic spirit of ammonia, two pints; macerate for ten days, and strain. Vide Quest. 396.

COMPOUND TINCTURE OF CINCHONA.—Take of the bark of the lance-leaved cinchona in powder, two ounces; of orange peel dried, an ounce and a half; of serpentary root bruised, three drachms; of saffron, a drachm; of cochineal in powder, two scruples; of proof spirit, twenty fluid ounces; macerate for fourteen days, and strain.

TINCTURE OF CINNAMON.—Take of cinnamon bark bruised, three ounces; of proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 212.

COMPOUND TINCTURE OF CINNAMON.—Take of cinnamon bark bruised, six drachms; of cardamom

seeds bruised, three drachms; of long pepper in powder, of ginger root sliced, each two drachms; of proof spirit, two pints; macerate for fourteen days, and strain.

TINCTURE OF DIGITALIS.—Take of foxglove leaves dried, four ounces; of proof spirit, two pints; macerate for fourteen hours, and strain. Vide Quest. 195, 196, 197. 352.

COMPOUND TINCTURE OF GENTIAN.—Take of gentian root sliced, two ounces; of orange peel dried, an ounce; of cardamom seeds bruised, half an ounce; of proof spirit, two pints; macerate for fourteen days and strain. Vide Quest. 270, 271, 272. 277, 327.

TINCTURE OF GUAIACUM.—Take of gum-resin of guaiacum, in powder, half a pound; of rectified spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 364, 365.

AMMONIATED TINCTURE OF GUAIACUM.—Take of the gum-resin of guaiacum in powder, four ounces; of aromatic spirit of ammonia, a pint and half; macerate for fourteen days, and strain. Vide Quest. 364, 365.

TINCTURE OF BLACK HELLEBORE.—Take of black hellebore root sliced, four ounces; of proof spirit, two pints; macerate for fourteen days, and strain.

TINCTURE OF HOPS.—Take of hops, five ounces; of proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 371, 372.

TINCTURE OF HENBANE.—Take of henbane leaves dried, four ounces; of proof spirit, two pints; macerate for fourteen days, and strain.

Tincture of jalap.—Take of jalap root in powder, eight ounces: of proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 293, 294.

Tincture of kino.—Take of kino in powder, three ounces; of rectified spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 158, 159. 161.

Tincture of myrrh.—Take of myrrh bruised, four ounces; of rectified spirit, three pints; macerate for fourteen days, and strain. Vide Quest. 490.

Tincture of opium.—Take of hard opium, in powder, two ounces and a half; of proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 44, 45, 46, 47. 262. 477.

Tincture of rhubarb.—Take of rhubarb root sliced, two ounces; of cardamom seeds bruised, an ounce and half; of saffron, two drachms; of proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 296, 297, 298, 299.

Compound tincture of rhubarb.—Take of rhubarb root sliced, two ounces; of liquorice root bruised half an ounce; of ginger root sliced, of saffron, each two drachms; of proof spirit, a pint; of water, twelve fluid ounces; macerate for fourteen days, and strain. Vide Quest. 404.

Tincture of squills.—Take of squill root fresh dried, four ounces; of proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 184. 187.

Tincture of senna.—Take of senna leaves, three ounces; of carraway seeds bruised, three drachms; of

cardamom seeds bruised, a drachm; of raisins stoned, four ounces; of proof spirit, two pints; macerate for fourteen days, and strain. Vide Quest. 405.

TINCTURE OF SERPENTARY.—Take of serpentary root, three ounces; of proof spirit, three pints; macerate for fourteen days, and strain.

TINCTURE OF VALERIAN.—Take of Valerian root, four ounces; of proof spirit, two pints; macerate for fourteen days, and strain.

AMMONIATED TINCTURE OF VALERIAN.—Take of valerian root, four ounces; of aromatic spirit of ammonia, two pints; macerate for fourteen days, and strain.

TINCTURE OF GINGER.—Take of ginger root, sliced, two ounces; of rectified spirits, two pints; macerate for fourteen days, and strain. Vide Quest.

PREPARATIONS OF ÆTHER.

VIDE Quest. 97, 98.

SULPHURIC ÆTHER.—Take of rectified spirit, of sulphuric acid, of each, *by weight*, a pound and a half; pour the spirit into a glass retort, and add the acid gradually to it, shaking them frequently until they are mixed, and taking care that the heat does not exceed the hundred and twentieth degree; then place them cautiously in sand, previously heated to the two hundredth degree, that the liquor may boil as quickly as possible, and the æther pass over into a tubulated receiver, to which another receiver shall be fitted, kept cold by ice or water. Let the liquor distil until a hea-

vier part shall begin to pass over and to be seen under the æther at the bottom of the receiver. To the liquor which remains in the retort pour twelve ounces of rectified spirit, that the æther may distil in a similar manner.

Rectified æther.—Take of sulphuric æther, fourteen fluid ounces; of fused potass, half an ounce; of distilled water, eleven fluid ounces; first dissolve the potass in two ounces of the water, and add to it the æther, constantly shaking them until they are mixed; then at a heat of about the hundred and twentieth degree, let twelve fluid ounces of æther distil from a large retort into a cooled receiver; shake together the distilled æther, with nine fluid ounces of the water, and set them aside that the water may subside. Lastly, pour off the supernatant rectified æther, and keep it in a well stopped vessel.

Æthereal oil.—After the distillation of sulphuric æther, having decreased the heat, let the liquor distil again until a black froth swells up; then remove the retort directly from the fire; add water to the liquor which remains in the retort, that the oily part may float upon its surface. Take off this, and add to it as much as may be sufficient, of lime water, to saturate the acid which is present, and shake them together; finally, take off the separated ethereal oil.

Aromatic spirit of æther.—Take of cinnamon bark, bruised, three drachms; of seeds of cardamom, in powder, a drachm and a half; of the fruit of long pepper, powdered, of the root of ginger, sliced, of each a drachm; of spirit of sulphuric æther, a pint;

macerate for fourteen days in a stopped glass vessel, and strain. Vide Quest. 406.

Spirit of nitric æther.—Take of rectified spirit, two pints; of nitric acid, *by weight*, three ounces; add the acid to the spirit gradually, and mix them, taking care that the heat does not exceed the hundred and twentieth degree; then, with a mild heat, distil twenty-four fluid ounces. Vide Quest. 493, 494.

Spirit of sulphuric æther.—Take of rectified æther, half a pint; of rectified spirit, a pint; mix.

Compound spirit of sulphuric æther.—Take of spirit of sulphuric æther, a pint; of æthereal oil, two fluid drachms; mix.

WINES.

Vide Quest. 449.

Wine of aloes.—Take of extract of spiked aloes, eight ounces; of canella bark, two ounces; of proof spirit, of distilled water, of each four pints; rub the aloe into a powder with white sand, cleansed from all impurities; rub the bark of canella also into a powder, and to these, mixed together, pour the spirit and the water; macerate for fourteen days, stirring it frequently, and strain. Vide Quest. 447.

Wine of meadow saffron.—Take of the root of meadow-saffron, fresh, sliced, a pound; of proof spirit, four fluid ounces; of distilled water, eight fluid ounces; macerate for fourteen days, and strain. Vide Quest. 420. 474.

Wine of ipecacuanha.—Take of the root of ipecacuanha, bruised two ounces; of proof spirit, twelve

fluid ounces; of distilled water, twenty fluid ounces; macerate for fourteen days, and strain. Vide Quest. 54, 55, 56, 57, 58, 59, 60, 61, 62, 63. 83. 475.

Wine of opium.—Take of extract of opium, an ounce; of cinnamon bark, bruised, of cloves, bruised, of each a drachm; of proof spirit, six fluid ounces; of distilled water, ten fluid ounces; macerate for eight days, and strain. Vide Quest. 448.

Wine of (*white*) hellebore.—Take of the root of *white* hellebore, sliced, eight ounces; of proof spirit, a pint; of distilled water, a pint and a half; macerate for fourteen days, and strain. Vide Quest. 274, 275. 278. 281, 282.

VINEGARS.

Vinegar of meadow saffron.—Take of the fresh root of meadow-saffron, sliced, an ounce; of dilute acetic acid, a pint; of proof spirit, a fluid ounce; macerate the root of the meadow-saffron with the dilute acetic acid, in a covered glass vessel for three days; then express and set it by, that the dregs may subside; lastly, add the spirit to the strained liquor. Vide Quest. 474. 487.

Vinegar of squill.—Take of the fresh root of the squill, dried, a pound; of dilute acetic acid, six pints; of proof spirit, half a pint; macerate the root of squill with the acid by a gentle heat, in a closed glass vessel, for twenty-four hours; then express and set it by, that the dregs may subside; lastly, add the spirit to the strained liquor. Vide Quest. 184, 185, 186, 187.

PREPARATIONS OF HONEY.

Clarified honey.—Dissolve the honey with a water-bath, then take off the scum.

Honey of borax.—Take of subborate of soda in powder, a drachm; of clarified honey, an ounce; mix.

Honey of roses.—Take of the petals of the French rose (*red rose*) dried, four ounces; of boiling water, three pints; of clarified honey, five pounds; macerate the petals of the rose in the water for six hours, and strain; then add the honey to the strained liquor, and, with a water-bath, boil them down until they acquire a proper consistence.

Simple oxymel.—Take of clarified honey, two pounds; of dilute acetic acid, one pint; boil down in a glass vessel with a gentle fire to a proper consistence.

Oxymel of squill.—Take of clarified honey, three pounds; of vinegar of squills, two pints; boil down in a glass vessel with a gentle fire to a proper consistence.

SYRUPS.

Syrups are to be kept in a place where the heat never exceeds the fifty-fifth degree.

Syrup of marshmallow.—Take of the fresh root of marshmallow, bruised, half a pound; purified sugar, two pounds; water, four pints; boil down the

water with the root to one half, and express the liquor when cool. Set it by for twenty-four hours that the dregs may subside; then pour off the liquor, and, the sugar being added, boil down to a proper consistence.

Syrup of oranges (*the peel*).—Take of fresh peel of oranges, two ounces; of boiling water, a pint; of refined sugar, three pounds; macerate the peel in the water for twelve hours in a vessel lightly covered; then pour off the liquor, and add the sugar to it.

Syrup of saffron.—Take of saffron, an ounce; of boiling water, a pint; of purified sugar, two pounds and a half; macerate the saffron in the water for twelve hours in a vessel lightly covered; then strain the liquor, and add the sugar.

Syrup of lemons.—Take of the juice of lemons strained, a pint; of purified sugar, two pounds; dissolve the sugar in the juice of lemons in the same manner which is directed for simple syrup.

Syrup of mulberries.—Take of the juice of mulberries strained, a pint; of refined sugar, two pounds; dissolve the sugar in the juice of mulberries, in the same manner which is directed for simple syrup.

Syrup of poppy (*white*).—Take of capsules of (*white*) poppy dried and bruised, having taken out the seeds, fourteen ounces; of purified sugar, two pounds; of boiling water, two gallons and a half; macerate the capsules in the water for twenty-four hours, then with a water-bath boil down to one gallon, and ex-

press it strongly. Boil down the strained liquor again to two pints, and strain it as yet hot Set it by for twelve hours, that the dregs may subside; then boil down the clear liquor to a pint, and add the sugar, in the same manner which is directed for simple syrup.

Syrup of buckthorn.—Take of the fresh juice of the berries of buckthorn, four pints; of ginger root, sliced, of the berries of pimenta in powder, of each half an ounce; of purified sugar, three pounds and a half; set by the juice for three days that the dregs may subside, and strain; add the ginger root and pimenta berries to a pint of the strained juice; then macerate in a gentle heat for four hours, and strain; boil down what is remaining to a pint and a half; mix the liquors; and add the sugar in the same manner which is directed for simple syrup.

Syrup of red poppy.—Take of the fresh petals of the red poppy, a pound; of boiling water, a pint and two fluid ounces; of purified sugar, two pounds and a half; add the petals of the red poppy gradually to the water heated with a water-bath, frequently stirring them; then, having removed the vessel, macerate for twelve hours; then express the liquor, and set it by that the dregs may subside; lastly, add the sugar in the same manner which is directed for simple syrup.

Syrup of roses.—Take of the petals of the damask rose, dried, seven ounces; of purified sugar, six pounds; of boiling water, four pints; macerate the

petals of the rose in the water for twelve hours, and strain; evaporate the strained liquor in a water-bath to two pints and a half; then add the sugar in the same manner which is directed for simple syrup.

Syrup of sarsaparilla.—Take of the root of sarsaparilla, sliced, a pound; of boiling water, a gallon; of purified sugar, a pound; macerate the root in the water for twenty-four hours; then boil down to four pints, and strain the liquor as yet hot; then add the sugar, and evaporate to a proper consistence.

Syrup of senna. — Take of senna leaves, two ounces; of the seeds of fennel, bruised, an ounce, of manna, three ounces; of purified sugar, a pound; of boiling water, a pint; macerate the leaves of senna and the seeds of fennel in the water for an hour, with a gentle heat. Strain the liquor, and mix with it the manna and the sugar; then boil down to a proper consistence.

Simple syrup. — Take of purified sugar, two pounds and a half; of water, a pint; dissolve the sugar in the water, in a water-bath; then set it aside for twenty-four hours; then take off the scum, and pour off the pure liquor from the dregs, if there be any.

Syrup of tolu. — Take of balsam of tolu, an ounce; of boiling water, a pint; of purified sugar, two pounds; boil the balsam in the water for half an hour in a covered vessel, stirring them often, and strain the liquor when it has become cold; then add

the sugar, in the same manner which is directed for simple syrup.

Syrup of ginger.—Take of root of ginger sliced, two ounces; of boiling water, a pint; of purified sugar, two pounds; macerate the root of ginger in the water for four hours, and strain; then add the sugar in the same manner which is directed for simple syrup.

CONFECTIONS.

If confections kept long, should become hard, they are to be moistened with water, that their proper consistence may be restored.

Confection of almonds.—Take of sweet almonds, an ounce; of acacia gum, powdered, a drachm; of purified sugar, half an ounce; the almonds being first macerated in water and their external coat taken off, bruise the whole together, until they shall be incorporated.

Aromatic confection.—Take of the cinnamon bark, of nutmegs, of each two ounces; of cloves, an ounce; of the seeds of cardamom, half an ounce; of saffron dried, two ounces; of prepared shells, sixteen ounces; of purified sugar, powdered, two pounds; of water, a pint; rub the dry ingredients together into a very fine powder; then add the water gradually, and mix, until they shall be incorporated.

Confection of orange peel.—Take of the outer fresh rind of oranges, separated by rasping, a pound;

of purified sugar, three pounds; bruise the rind with a wooden pestle in a stone mortar; then, having added the sugar, bruise them again until they shall be incorporated.

CONFECTION OF CASSIA.—Take of the fresh pulp of cassia, half a pound; of manna, two ounces; of the pulp of tamarind, an ounce; of syrup of roses, half a pint; bruise the manna, then dissolve it in the syrup with a water-bath; then mix in the pulps, and evaporate till it shall be of a proper consistence.

CONFECTION OF OPIUM.—Take of hard opium, powdered, six drachms; of the fruit of long pepper, an ounce; of the root of ginger, two ounces; of the seeds of carraway, three ounces; of tragacanth, powdered, two drachms; of syrup, a pint; rub the opium with the syrup heated, then add the rest of the ingredients powdered, and mix.

CONFECTION OF BLACK PEPPER.—Take of black pepper, of the root of elecampane, of each a pound; of the seeds of fennel, three pounds; of honey, of purified sugar, of each two pounds; rub together the dry ingredients, into a very fine powder; then, having added the honey, pound them until they shall be incorporated.

CONFECTION OF THE DOG ROSE.—Take of the pulp of dog rose, a pound; of purified sugar, powdered, twenty ounces; expose the pulp to a gentle heat in a water-bath; then add the sugar gradually, and rub them together until they shall be incorporated.

CONFECTION OF THE FRENCH ROSE (*RED ROSE*).—

Take of the petals of the French rose, before they unfold, and without their claws, a pound; of purified sugar, three pounds; bruise the petals in a stone mortar, then, having added the sugar, bruise them again until they shall be incorporated.

CONFECTION OF RUE.—Take of the leaves of rue, dried, of the seeds of carraway, of the berries of bay, of each an ounce and a half; of sagapenum, half an ounce; of the fruit of black pepper, two drachms; of clarified honey, sixteen ounces; rub together the dry (*ingredients*) to a very fine powder; then, having added the honey, mix the whole (*together*).

CONFECTION OF SCAMMONY.—Take of the gum-resin of scammony, powdered, an ounce and a half; of cloves, bruised, of the root of ginger, in powder, of each six drachms; of the oil of carraway, half a fluid drachm; of the syrup of roses, a sufficient quantity; rub together the dry (*ingredients*) into a very fine powder; then, the syrup being dropped in, next, having added the oil of carraway, mix the whole (*together*).

CONFECTION OF SENNA.—Take of the leaves of senna, eight ounces; of figs, a pound; of the pulp of tamarind, of the pulp of cassia, of the pulp of prunes, of each half a pound; of the seeds of coriander, four ounces; of the root of liquorice, three ounces; of purified sugar, two pounds and a half; rub the leaves of senna with the seeds of coriander, and separate ten ounces of the mixed powder by a sieve. Boil down the residue with the figs and the root of liquorice, in four

pints of water, to one half; then express and strain it. Evaporate the strained liquor with a water-bath until the whole is reduced to a pint and a half; then, having added the sugar, let a syrup be made; lastly, rub the pulps with the syrup gradually added, and having thrown in the sifted powder, mix the whole (*together*).

POWDERS.

COMPOUND POWDER OF ALOES.—Take of extract of spiked aloe, an ounce and a half; of gum-resin of guaiacum, an ounce; of compound powder of cinnamon, half an ounce; rub the extract of aloe and the gum-resin of guaiacum separately into powder; then mix them with the compound powder of Cinnamon.

COMPOUND POWDER OF CINNAMON.—Take of cinnamon bark, two ounces; of the seeds of cardamom, an ounce and a half; of the root of ginger, an ounce; of the fruit of long pepper, half an ounce; rub them together that they may be made a very fine powder.

COMPOUND POWDER OF CONTRAJERVA.—Take of the root of contrajerva, powdered, five ounces; of prepared shells, a pound and a half; mix.

POWDER OF BURNT (*HART'S*) HORN WITH OPIUM.—Take of hard opium, powdered, a drachm; of hartshorn, burnt and prepared, an ounce; of cochineal, powdered, a drachm; mix.

COMPOUND POWDER OF CHALK.—Take of prepared

chalk, half a pound; of the cinnamon bark, four ounces; of the root of tormentil, of the gum of acacia, of each three ounces; of the fruit of long pepper, half an ounce; rub them separately into a very fine powder; then mix.

COMPOUND POWDER OF CHALK WITH OPIUM.—Take of compound powder of chalk, six ounces and a half; of hard opium, powdered, four scruples; mix.

COMPOUND POWDER OF IPECACUANHA.—Take of the root of ipecacuanha, powdered, of hard opium, powdered, of each a drachm; sulphate of potass, powdered, an ounce: mix. Vide Quest. 54, 55, 59.

COMPOUND POWDER OF KINO.—Take of kino, fifteen drachms; of the bark of cinnamon, half an ounce; of hard opium, a drachm; rub them separately into a very fine powder; then mix. Vide Quest. 599.

COMPOUND POWDER OF SCAMMONY.—Take of the gum-resin of scammony, of the hard extract of jalap, of each two ounces; of the root of ginger, half an ounce; rub them separately into a very fine powder; then mix. Vide Quest. 253, 254, 255.

COMPOUND POWDER OF SENNA.—Take of the leaves of senna, of supertartrate of potass, of each two ounces; of the gum-resin of scammony, half an ounce; of the root of ginger, two drachms; rub the gum-resin of scammony separately, and the rest together, into a very fine powder; then mix.

COMPOUND POWDER OF TRAGACANTH.—Take of tragacanth, powdered, of gum acacia, powdered, of starch, of each an ounce and a half; of purified sugar,

three ounces; rub the starch and the sugar together, into a powder; then, having added the tragacanth and gum of acacia, mix the whole (*together*).

PILLS.

Compound pills of aloes.—Take of extract of spiked aloe, powdered, an ounce; of extract of gentian (root), half an ounce; of oil of carraway, forty minims; of simple syrup, what may be sufficient; bruise them together, until the mass appears incorporated (*or in one body*).

Pills of aloes with myrrh.—Take of extract of spiked aloe, two ounces; of saffron, of myrrh, of each an ounce; of simple syrup, what may be sufficient; rub the extract and the myrrh separately into a powder; then beat the whole (*together*) until they shall be a uniform mass.

Compound pills of gamboge.—Take of gamboge, powdered, a drachm; of extract of spiked aloe, powdered, a drachm and a half; of ginger, powdered, half a drachm; of soap, two drachms; mix the powders together; then, having added the soap, bruise the whole together until they shall be a uniform mass.

Compound pills of iron.—Take of myrrh, powdered, two drachms; of subcarbonate of soda, of sulphate of iron, of sugar, of each a drachm; rub the myrrh with the subcarbonate of soda, the sulphate of iron being added; rub them again, then bruise the

whole together until they shall be a uniform mass.

Compound pills of galbanum.—Take of the gum-resin of galbanum, an ounce; of myrrh, of sagapenum, of each an ounce and a half; of the gum-resin of assafœtida, half an ounce; of simple syrup, a sufficient quantity; beat them together until they shall be a uniform mass.

Mercurial pills.—Take of purified mercury, *by weight*, two drachms; of confection of the French rose, three drachms; of the root of liquorice, in powder, a drachm; rub the mercury with the confection, until globules are no longer visible: then, the liquorice root being added, beat the whole together until they shall be a uniform mass.

Compound pills of the submuriate of mercury.—Take of submuriate of mercury, of precipitated sulphuret of antimony, of each two drachms; of the gum-resin of guaiacum powdered, half an ounce; of rectified spirit, half a drachm; rub the submuriate of mercury first with the precipitated sulphuret of antimony, then with the gum-resin of guaiacum, and add the spirit, that it may be made of a proper consistence.

Pills of soap with opium.—Take of hard opium in powder, half an ounce; hard soap, two ounces; beat them together, until they shall be of a uniform mass.

Compound pills of squill.—Take of fresh root of squill dried and powdered, a drachm; of the root of ginger in powder, of hard soap, of each three drachms:

of ammoniacum powdered, two drachms; mix the powders together; then beat them with the soap, and add a sufficient quantity of simple syrup, that it may be formed of a proper consistence.

PREPARATIONS FROM ANIMALS.

Prepared lard.—Cut the lard into small pieces; then melt it over a gentle fire, and press it through linen.

Burnt hartshorn.—Burn pieces of hartshorn in an open fire until they become thoroughly white; then powder, and prepare them in the same manner which is directed for chalk.

Prepared suet.—Cut the suet into small pieces; melt it over a gentle fire, and press it through linen.

Burnt sponge.—Cut the sponge into small pieces, and bruise it, that it may be separated from any adherent substances; then burn it in a close iron vessel until it becomes black and friable; lastly, rub it into a very fine powder.

Prepared oyster shells.—Wash the shells previously freed from all impurities, with boiling water, then prepare them in the same manner as directed concerning chalk.

PLASTERS.

Plaster of ammoniacum.—Take of purified ammoniacum, five ounces; of dilute acetic acid, half a pint; dissolve the ammoniacum in the acid; then, by

a water-bath, evaporate the liquor in an iron vessel, constantly stirring it, until it shall be made of a proper consistence.

PLASTER OF AMMONIACUM WITH MERCURY.—Take of purified ammoniacum, a pound; of purified mercury, *by weight*, three ounces; of sulphurated oil, a fluid drachm; rub the mercury with the sulphurated oil until the globules are no longer to be seen; then add the ammoniacum gradually, previously dissolved, and mix the whole together.

PLASTER OF SPANISH FLY.—Take of spanish fly rubbed into a very fine powder, a pound; plaster of wax, a pound and a half; of prepared lard, half a pound; to the plaster and the lard dissolved, and removed from the fire, just before they become solid, sprinkle the spanish fly, and mix the whole.

PLASTER OF WAX.—Take of yellow wax, of prepared suet, of each three pounds; of yellow resin, a pound; melt them together, and strain.

CUMIN PLASTER.—Take of the seeds of cumin, of the seeds of carraway, of the berries of bay, of each three ounces; of burgundy pitch, three pounds; of yellow wax, three ounces; of olive oil, of water, of each, an ounce and half; to the pitch and wax melted together, add the dry materials rubbed to powder, the olive oil and the water; then boil down to a proper consistence.

COMPOUND PLASTER OF GALBANUM.—Take of the gum-resin, of purified galbanum, eight ounces; of plaster of lead, three pounds; of common turpentine, ten drachms, of resin of the spruce fir, powdered, three

ounces; to the gum resin of galbanum and the turpentine melted together, add first the resin of the spruce fir, and then the plaster of lead melted with a slow fire, and mix the whole.

Mercurial plaster.—Take of purified mercury, *by weight*, three ounces; of sulphurated oil, a fluid drachm; of plaster of lead, a pound; rub the mercury with the sulphurated oil until the globules are no longer to be seen; then add gradually the melted plaster of lead, and mix the whole.

Plaster of opium.—Take of hard opium powdered, half an ounce; of resin of the spruce fir, in powder, three ounces; of plaster of lead, a pound; of water, half a pint; to the melted plaster add the resin of the spruce fir, the opium, and the water; and boil down with a slow fire until the whole unite into the consistence of a plaster.

Compound plaster of pitch.—Take of burgundy pitch, two pounds; of resin of the spruce fir, a pound; of yellow resin, of yellow wax, of each four ounces; of expressed oil of nutmegs, an ounce; of olive oil, of water, of each two fluid ounces; to the pitch, resin, and the wax dissolved together, add first the resin of the spruce fir, and then the oil of nutmeg, the olive oil, and the water. Lastly, mix the whole, and boil down to a proper consistence.

Plaster of lead.—Take of semi-vitreous oxide of lead in very fine powder, five pounds; of olive oil, a gallon; of water, two pints; boil them, together over a slow fire, constantly stirring them, until the oil and oxide of lead unite into the consistence of a plaster;

but it will be necessary to add a little boiling water, if that which was at first employed shall have been consumed before the end of the boiling.

Plaster of resin.—Take of yellow resin, half a pound; of plaster of lead, three pounds; to the plaster of lead melted with a slow fire, add the resin powdered, and mix.

Plaster of soap.—Take of hard soap sliced, half a pound; of plaster of lead, three pounds; mix the soap with the melted plaster; then boil them down to a proper consistence.

CERATES.

Cerate of calamine.—Take of prepared calamine, of yellow wax, of each half a pound; of olive oil, a pint; mix the oil with the melted wax; then remove them from the fire, and when the mixture begins to thicken, add the calamine, and stir it constantly, until it shall become cold.

Cerate of the spanish fly.—Take of the Spanish fly, in very fine powder, a drachm; of cerate of spermaceti, six drachms; to the cerate softened by the fire, add the Spanish fly, and mix.

Cerate of spermaceti.—Take of spermaceti, half an ounce; of white wax, two ounces; of olive oil, four fluid ounces; add the oil to the spermaceti and wax melted together, and stir them with a wooden spatula until they are become cold.

Cerate of acetate of lead.—Take of acetate of lead in powder, two drachms; of white wax, two ounces; of olive oil, half a pint; dissolve the wax in

seven fluid ounces of the oil, then add gradually the acetate of lead rubbed separately with the remaining oil, stirring them with a wooden spatula until they are united.

Compound cerate of lead.—Take of the liquor of sub-acetate of lead, two fluid ounces and a half; of yellow wax, four ounces; of olive oil, nine fluid ounces; of camphor half a drachm; mix the melted wax with eight fluid ounces of the oil; then remove it from the fire, and when it begins to thicken, add the liquor of sub-acetate of lead gradually to it, and constantly stir them with a wooden spatula, until they become cold. Lastly, mix the camphor with these, dissolved in the remaining oil.

Cerate of resin.—Take of yellow resin, of yellow wax, of each a pound; of olive oil a pint; melt the resin and wax together over a slow fire; then add the oil, and strain the cerate through linen whilst it is hot.

Cerate of savine.—Take of the fresh leaves of savine, bruised, a pound; of yellow wax, half a pound; of prepared lard, two pounds; boil the leaves of savine in the wax and lard melted together, then express through linen.

Cerate of soap.—Take of hard soap, eight ounces; of yellow wax, ten ounces; of semi-vitreous oxide of lead, powdered, a pound; of olive oil, a pint; of vinegar, a gallon; boil the vinegar with the oxide of lead over a slow fire, constantly stirring them, until they shall be in a uniform mass; then add the soap, and boil again in a similar manner, until the moisture

is completely evaporated; lastly, mix these with the wax previously dissolved in the oil.

SIMPLE CERATE.—Take of olive oil, four fluid ounces; of yellow wax, four ounces; add the oil to the wax melted, and mix.

OINTMENTS.

OINTMENT OF THE BLISTERING FLY.—Take of the Spanish flies in very fine powder, two ounces; of distilled water, eight fluid ounces; of resin cerate, eight ounces; boil down the water with the Spanish flies to one half, and strain. Mix the cerate with the strained liquor, then evaporate it to a proper consistence.

SPERMACETI OINTMENT.—Take of spermaceti, six drachms; of white wax, two drachms; of olive oil, three fluid ounces; having melted them together over a gentle fire, stir them constantly until they shall have become cold.

COMPOUND OINTMENT OF ELEMI.—Take of elemi, a pound; of common turpentine, ten ounces; of prepared suet, two pounds; of olive oil, two fluid ounces; melt together the elemi with the suet, then take them from the fire, and to these immediately mix the turpentine and the oil, then express through linen.

STRONG MERCURIAL OINTMENT.—Take of purified mercury, two pounds; of prepared lard, twenty-three ounces; of prepared suet, an ounce; first rub the mercury with the suet and a little of the lard, until globules are no longer to be seen, then add what is remaining of the lard, and mix.

Mild mercurial ointment.—Take of strong mercurial ointment, a pound; of prepared lard, two pounds; mix.

Ointment of nitrate of mercury.—Take of purified mercury, an ounce; of nitric acid, eleven fluid drachms; of prepared lard, six ounces; of olive oil, four fluid ounces; first dissolve the mercury in the acid, then mix the liquor whilst hot with the lard and oil melted together.

Ointment of nitric oxide of mercury.—Take of nitric oxide of mercury, an ounce; of white wax, two ounces; of prepared lard, six ounces; add the nitric oxide of mercury rubbed into a very fine powder to the wax and the lard melted together, and mix.

Ointment of white precipitated mercury.—Take of white precipitated mercury, a drachm; of prepared lard, an ounce and half; to the lard, melted over a slow fire, add the precipitated mercury, and mix.

Ointment of black pitch.—Take of black pitch, of yellow wax, of yellow resin, each nine ounces; of olive oil, a pint; melt them together, and express through linen.

Ointment of liquid pitch.—Take of liquid pitch (*Tar*), of prepared suet, each a pound; melt them together, and strain through linen.

Elder flower ointment.—Take of elder flowers, of prepared lard, each two pounds; boil the elder flowers in the lard until they become crisp; then strain through linen.

Ointment of sulphur.—Take of sublimed sulphur, three ounces; of prepared lard, half a pound; mix.

Compound ointment of sulphur.—Take of sublimed sulphur, half a pound; of the root of white hellebore in powder, two ounces; of nitrate of potass, a drachm; of soft soap, half a pound; of prepared lard, a pound and half; mix.

Ointment of white hellebore.—Take of the root of white hellebore in powder, two ounces; of prepared lard, eight ounces; of oil of lemons, twenty minims; mix.

Ointment of zinc.—Take of oxide of zinc, an ounce; of prepared lard, six ounces; mix.

LINIMENTS.

Liniment of verdigris.—Take of verdigris powdered, an ounce; of vinegar, seven fluid ounces; of clarified honey, fourteen ounces; dissolve the verdigris in the vinegar, and strain the solution through linen; then, having dropped in the honey gradually, boil down to a proper consistence.

Strong liniment of ammonia.—Take of liquor of ammonia, a fluid ounce; of olive oil, two fluid ounces; shake them together until they are mixed.

Liniment of subcarbonate of ammonia.—Take of solution of subcarbonate of ammonia, a fluid ounce; of olive oil, three fluid ounces; shake them together until they are mixed.

Liniment of camphor.—Take of camphor, half an ounce; of olive oil, two fluid ounces; dissolve the camphor in the oil.

Compound liniment of camphor.—Take of camphor, two ounces; of liquor of ammonia, six fluid

ounces; of spirit of lavender, a pint; mix the liquor of ammonia with the spirit in a glass retort, then let a pint distil with a slow fire. Lastly, dissolve the camphor in this.

Liniment of mercury.—Take of strong mercurial ointment, of prepared lard, each four ounces; of camphor, an ounce; of rectified spirit, fifteen minims; of liquor of ammonia, four fluid ounces. Rub the camphor, first with the spirit, then with the mercurial ointment and the lard; lastly, having dropped in gradually the liquor of ammonia, mix the whole.

Compound liniment of soap.—Take of hard soap, three ounces; of camphor, an ounce; of spirit of rosemary, a pint. Dissolve the camphor in the spirit, then add the soap, and macerate in a sand-bath, until it is dissolved.

Liniment of turpentine.—Take of cerate of resin, a pound; of oil of turpentine, half a pint; add the oil of turpentine to the melted cerate, and mix.

CATAPLASMS.

Cataplasm of yest.—Take of flour, a pound; of the yest of ale, half a pint; mix, and apply a gentle heat until it begins to swell.

Cataplasm of mustard.—Take of the seeds of mustard, of linseed, each, powdered, half a pound; of boiling vinegar, as much as may be sufficient; mix, that it may be of the consistence of a cataplasm.

TABLE

SHOWING IN WHAT PROPORTION OPIUM AND CERTAIN PREPARATIONS OF ANTIMONY, ARSENIC, AND MERCURY, ARE CONTAINED IN SOME COMPOUND MEDICINES.

CONFECTIO OPII (*Confection of Opium*) contains one grain of opium in about thirty six grains.

HYDRARGYRUM CUM CRETA (*Mercury with chalk*) contains one grain of mercur in about three grains.

LINIMENTUM HYDRARGYRI (*Mercurial liniment*) contains one drachm of mercury in about six drachms.

LIQUOR ARSENICALIS (*Arsenical solution*) contains one grain of sublimed white arsenic in two fluid drachms.

LIQUOR HYDRARGYRI OXYMURIATIS (*Solution of oxymuriate of mercury*) contains a grain of oxymuriate of mercury in two fluid ounces.

PILULÆ HYDRARGYRI (*Mercurial pills*) contain one grain of mercury in three grains.

PILULÆ HYDRARGYRI SUBMURIATIS COMPOSITÆ (*Compound pills of submuriate of mercury*) contain one grain of submuriate of mercury in about four grains.

PILULÆ SAPONIS CUM OPIO (*Soap pills with opium*) contain one grain of opium in five grains.

PULVIS CORNU USTI CUM OPIO (*Powder of calcined hartshorn with opium*) contains one grain of opium in ten grains.

PULVIS CRETÆ COMPOSITUS CUM OPIO (*Compound powder of chalk with opium*) contains one grain of opium in two scruples.

PULVIS IPECACUANHÆ COMPOSITUS (*Compound powder of ipecacuanha*) contains one grain of opium in ten grains.

PULVIS KINO COMPOSITUS (*Compound powder of kino*) contains one grain of opium in one scruple.

VINUM ANTIMONII TARTARIZATI (*Wine of tartarized antimony*) contains one grain of tartarized antimony in four fluid drachms.

UNGUENTUM HYDRARGYRI FORTIUS (*Strong mercurial ointment*) contains one drachm of mercury in two drachms.

UNGUENTUM HYDRARGYRI MITIUS (*Mild mercurial ointment*) contains one drachm of mercury in six drachms.

TABLE

OF NEW NAMES SHOWING TO WHAT NAME OF THE FORMER PHARMACOPŒIA EACH RESPECTIVELY BELONGS.

ACIDUM aceticum dilutum.	ACIDUM aceticum.
——— arseniosum.	Oxydum Arsenici album.
Arsenicum album.	Arsenici Oxydum.
——— sublimatum.	——— sublimatum.
CALUMBA.	CALUMBÆ *Radix*.
Cantharis.	Lytta.
——— vesicatoria.	——— Vesicatoria.
Ceratum Cantharidis.	Ceratum Lyttæ.
——— Plumbi Acetatis	——— Plumbi Superacetatis.

Cucumis Colocynthis, *Peponum pulpa.*	Cucumis Colocynthis, *Pomorum pulpa.*
Elaterii *Pepones.*	Elaterii *Poma.*
Emplastrum Cantharidis.	Emplastrum Lyttæ.
Infusum Lini compositum.	Infusum Lini.
——— Rosæ compositum.	——— Rosæ.
——— Sennæ compositum.	——— Sennæ.
Magnesiæ Subcarbonas.	Magnesiæ Carbonas.
Marmor album.	Lapis calcarius.
Matonia Cardamomum.	Elettaria Cardamomum.
Pix abietina.	Pix arida.
—- nigra.	Resina nigra.
Plumbi Acetas.	Plumbi Superacetas.
Tinctura Cantharidis.	Tinctura Lyttæ.
Vinum Antimonii tartarizati.	Liquor Antimonii tartarizati.
Unguentum Cantharidis.	Unguentum Lyttæ.
——— Picis nigræ.	——— Resinæ nigræ.

TABLE

OF FORMER NAMES SHOWING TO WHAT NAME OF THIS VOLUME EACH BELONGS.

FORMER NAMES.	NEW NAMES.
Acidum aceticum.	Acidum aceticum dilutum.
Arsenici Oxydum.	Arsenicum album.
——— sublimatum.	——— album sublimatum.
Calumbæ *Radix.*	Calumba.
Ceratum Lyttæ.	Ceratum Cantharidis.
——— Plumbi Superacetatis.	——— Plumbi Acetatis.
Cucumis Colocynthis, *Pomorum pulpa.*	Cucumis Colocynthis, *Peponum pulpa.*
Elaterii *Poma,*	Elaterii *Pepones.*

Elettaria Cardamomum.	Matonia Cardamomum.
Emplastrum Lyttæ.	Emplastrum Cantharidis.
INFUSUM Lini.	Infusum Lini compositum.
——— Rosæ.	——— Rosæ compositum.
——— Sennæ.	——— Sennæ compositum.
LAPIS calcarius.	Marmor album.
Liquor Antimonii tartarizati.	Vinum Antimonii tartarizati.
Lytta.	Cantharis.
—— vesicatoria.	——— vesicatoria.
MAGNESIÆ Carbonas.	Magnesiæ Subcarbonas.
OXYDUM Arsenici album.	Acidum arseniosum.
PIX arida.	Pix abietina.
Plumbi Superacetas.	Plumbi Acetas.
RESINA nigra.	Pix nigra.
TINCTURA Lyttæ.	Tinctura Cantharidis.
UNGUENTUM Lyttæ.	Unguentum Cantharidis.
——— Resinæ nigræ.	——— Picis nigræ.

INDEX

TO THE

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pg 150-154

24ColorCard CameraTrax